

International Civil Aviation Organization

**WORKING PAPER**



ICAO

**Eighteenth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/18) and Tenth Meeting of the Meteorological Services Working Group (MET/S WG/10)**

Web-conference, 27 to 31 July 2020

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**Agenda Item 3: Monitoring of meteorological information exchange**

**WEBINAR ON THE IMPLEMENTATION OF IWXXM AND AMHS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the proposal for an ICAO APAC 2020 webinar to support States with the implementation of the ICAO Meteorological Information Exchange Model (IWXXM), including the mechanism identified by ICAO to enable States to exchange information in IWXXM form; the Extended Air Traffic Services Message Handling System (AMHS). The paper invites the meeting to review a survey questionnaire on the status of planning and implementation of IWXXM and Extended AMHS, including States' requirements for assistance in the form of a webinar and urges participants to ensure their States respond to an online survey questionnaire by 7 August 2020.

**1. INTRODUCTION**

1.1 The *International Standards and Recommended Practices (SARPs), Meteorological Service for International Air Navigation* (Annex 3 to the Convention on International Civil Aviation), require that States disseminate specified types of aeronautical meteorological information in the interoperable, data-centric form provided by the ICAO Meteorological Information Exchange Model (IWXXM)

1.2 ICAO's complementary guidance materials, Doc 10003 – *Manual on the ICAO Meteorological Information Exchange Model* and the *Guidelines for the Implementation of OPMET Data Exchange Using IWXXM*, identify the Extended Air Traffic Services Message Handling System (AMHS) as a key mechanism to enable States to exchange information in IWXXM form.

1.3 This paper presents the ICAO and MET/IE WG's proposal for a 2020 ICAO APAC webinar to support States with the implementation of IWXXM and the Extended AMHS and invites the meeting to ensure their States respond to an online survey questionnaire by 7 August 2020.

**Agenda Item 3**

27-31/07/20

**2. DISCUSSION**

Previous IWXXM workshops

2.1 In order to support States with the implementation of ICAO's provisions for IWXXM, ICAO and its Member States and partner Organizations have conducted the following workshops in the APAC Region:

2.1.1 10 – 12 October 2017, Hong Kong Observatory, in collaboration with ICAO and the World Meteorological Organization (WMO), hosted the *Workshop on the Implementation of IWXXM for the exchange of OPMET Data*, in Hong Kong, China; fifty-two (52) participants from twenty-two (22) States/Administrative Regions (and WMO and ICAO) attended.

2.2 12 – 14 June 2019, Aeronautical Radio of Thailand (AEROTHAI), in conjunction with ICAO, hosted the *ICAO APAC Workshop on the Implementation of IWXXM* in Bangkok, Thailand; fifty-eight (58) participants from sixteen (16) Member States/Administrative Regions, ICAO and four (4) companies providing technical solutions, attended.

2.3 4 – 6 December 2019, Tonga Meteorological Service, in conjunction with the ICAO, hosted the *Workshop on the Implementation of IWXXM*, in Nuku'alofa, Tonga; twenty-three (23) experts from Solomon Islands, Tonga and ICAO attended.

Proposal for 2020 IWXXM and AMHS webinar

2.4 The above workshops indicated that further technical assistance in the form of an IWXXM workshop in the APAC Region would be beneficial, especially prior to the applicability date of the Annex 3 Standards for dissemination of meteorological information in IWXXM form, from 5 November 2020.

2.5 Feedback from both the 2019 workshops indicated that many States need assistance with IWXXM generation and provision of AMHS and would, therefore, benefit from another workshop. A specific outcome of the June workshop was a proposal for another APAC IWXXM workshop (in conjunction with ACSICG) in April/May 2020.

2.6 Although the above proposed IWXXM Workshop could not proceed, due to the COVID-19 pandemic, ICAO in conjunction with the MET/IE WG is proposing instead to conduct an online “webinar” on the implementation of IWXXM and AMHS.

2.7 To support the organization and planning of the proposed webinar, ICAO disseminated by State letter<sup>1</sup> a survey questionnaire requesting information from States on the status of their planning and implementation of IWXXM and Extended AMHS, including their requirements for assistance in the form of a dedicated webinar before November 2020.

2.8 A copy of the State letter is provided at the **Appendix A** to this paper. ICAO requests that all States participate in the survey by completing the online (SurveyMonkey®) questionnaire **by 7 August 2020**. Hong Kong Observatory is kindly facilitating the online survey.

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<sup>1</sup> Ref.: T 4/3.2.5 – AP155/20 (MET), dated 24 July 2020, on the subject: *2020 ICAO APAC Regional Survey on the Implementation of the ICAO Meteorological Information Exchange Model (IWXXM) and Extended Air Traffic Services Message Handling System (AMHS)*

**3. ACTION BY THE MEETING**

3.1 This paper invites the meeting to review the State letter and survey questionnaire at the **Appendix A** to this paper and urges all participants' to ensure their States respond to the online survey questionnaire at the following link: <https://www.surveymonkey.com/r/6N8H5TK> **by 7 August 2020**.

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Ref.: T 4/3.2.5 – AP155/20 (MET)

24 July 2020

**Subject: 2020 ICAO APAC Regional Survey on the Implementation of the ICAO Meteorological Information Exchange Model (IWXXM) and Extended Air Traffic Services Message Handling System (AMHS)**

**Action Required: Please complete and submit the survey questionnaire online by 7 August 2020**

Dear Sir/Madam,

I wish to refer to the *International Standards and Recommended Practices (SARPs), Meteorological Service for International Air Navigation* (Annex 3 to the Convention on International Civil Aviation), which require that States disseminate specified types of aeronautical meteorological information in the interoperable, data-centric form provided by the ICAO Meteorological Information Exchange Model (IWXXM)<sup>1</sup>.

In addition, the ICAO's complementary guidance materials, Doc 10003 – *Manual on the ICAO Meteorological Information Exchange Model and Guidelines for the Implementation of OPMET Data Exchange Using IWXXM*, identify the Extended Air Traffic Services Message Handling System (AMHS) as a key mechanism to enable States to exchange information in IWXXM form.

In order to better foster the planning and implementation by the States of the above ICAO provisions – for the safety, security and efficiency of air transport – the ICAO Asia and Pacific (APAC) Office is pleased to invite your State/Administrative Region to participate in an APAC Regional Survey on the implementation of IWXXM and Extended AMHS by completing the online (SurveyMonkey®) questionnaire at the following link:

<https://www.surveymonkey.com/r/6N8H5TK>.

A copy of the survey questionnaire is also provided at the **Attachment** to this letter, for your ease of reference, only. Please ensure, however, that your State/Administrative Region completes and submits the survey questionnaire online using the above link **by 7 August 2020**.

2/...

<sup>1</sup> **Annex 3, Amendment 78:** Appendix 2, para. 1.2, 5.1.3 and 6.1.2; Appendix 3, para. 2.1.3; Appendix 5, para. 1.1.2; Appendix 6, para. 1.1.6 and 2.1.6 and **Annex 3, Amendment 79:** Appendix 2, para. 1.3.1.3, 2.1.2 and 2.2; Appendix 3, Table A3-2, Note 12; Appendix 8, para. 2.2.2

Please note that the information your State/Administrative Region provides through this survey will support ICAO and APAC Member States' efforts towards achieving full compliance with the Annex 3 SARPs and the ICAO Member States' global goal of an increasingly automated, digitized and interconnected air navigation system.

Specifically, your information will support the work of the ICAO Meteorological Information Exchange Working Group (MET/IE WG) and APAC Air Navigation Planning and Implementation Regional Group (APANPIRG), and its other contributory bodies, in monitoring States' progress and, importantly, assessing States' needs for technical assistance with planning and implementing the ICAO provisions for IWXXM and Extended AMHS.

To this end, please note that the survey includes several questions on your State's specific needs for further technical assistance, including a question to assess States' requirements, in the near term, for an APAC IWXXM "Webinar".

I look forward to receiving your prompt response to the survey questionnaire at the above link. The results will complement information obtained by ICAO through previous IWXXM surveys and other related initiatives and I thank you for your continued and active participation in these important endeavours.

For any further information or assistance you require concerning this survey, please contact Mr. Peter Dunda ([pdunda@icao.int](mailto:pdunda@icao.int)).

Yours sincerely,



Arun Mishra  
Regional Director

**Attachment:**

Questionnaire – 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS



## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

**For Information Only** – Do not submit your responses using this document. Please submit your responses to the survey online at: <https://www.surveymonkey.com/r/6N8H5TK>

#### Background

ICAO Member States have embarked on the path towards an increasingly automated, digitized and interconnected air navigation system. To support this system, in which large volumes of information are being circulated between all players for planning and real-time decision making, aeronautical information needs a high level of interoperability.

As a key enabler for the air navigation system, aeronautical meteorological information needs to transition from traditional “product-centric” formats to interoperable, machine readable “data-centric” forms.

Through the adoption of amendments 76 through 79 to the *International Standards and Recommended Practices, Meteorological Service for International Air Navigation* (Annex 3 to the Convention on International Civil Aviation), the ICAO Council has progressively enabled the transition to data-centric aeronautical meteorological information.

The Annex 3 Standards and Recommended Practices (SARPs) now require that States disseminate specified types of aeronautical meteorological information in the interoperable, data-centric form provided by the ICAO Meteorological Information Exchange Model (IWXXM).

To support States with the implementation of the Annex 3 SARPs for IWXXM, ICAO has produced the following guidance material:

- ICAO Doc 10003 – *Manual on the ICAO Meteorological Information Exchange Model*
  - Assists States with conforming to the Annex 3 provisions for disseminating specific types of aeronautical meteorological information in IWXXM form, and;
- ICAO *Guidelines for the Implementation of OPMET Data Exchange Using IWXXM*
  - Assists States with the transition to and operational exchange of aeronautical meteorological information in IWXXM form.

Due to technical differences between the old and new formats, aeronautical meteorological information in IWXXM form cannot be transmitted in the same way as it is in Traditional Alphanumeric Code (TAC) form via the Aeronautical Fixed Telecommunication Network (AFTN).

Instead, the ICAO guidance identifies the Air Traffic Services Message Handling System (AMHS) as a mechanism for the exchange of IWXXM information using the extended AMHS File Transfer Body Part (FTBP) feature over the Aeronautical Fixed Service (AFS).

In addition, due to the much larger file sizes associated with IWXXM, the ICAO guidance indicates that the total size of an AMHS message (including FTBP) should be up to 4 MB.

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

The following questions are designed to inform ICAO and States on the preparedness and capabilities of States to exchange aeronautical meteorological information in IWXXM form in accordance with ICAO SARPs and guidelines.

#### Questions

**For Information Only** – Do not submit your responses using this document. Please submit your responses to the survey online at: <https://www.surveymonkey.com/r/6N8H5TK>

**1.** To support the international exchange of meteorological information in IWXXM form, has your State implemented or established the following telecommunication systems, connections or service capabilities:

**1.a.** Implemented the extended AMHS, including FTBP?

**YES** – Please go to question 1.b.

**NO** – Has your State planned to implement the extended AMHS, including FTBP?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 1.b.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the extended AMHS, including FTBP?

**YES** – Please provide specifics [ ] – Please go to question 1.b.

**NO** – Please provide further information on how your State will support the international exchange of meteorological information in IWXXM form [ ] – Please go to question 1.b.

**1.b.** For States with a National OPMET Centre (NOC), please continue – *otherwise skip to question 1.c.*  
– Established a direct AMHS connection, including FTBP, between the NOC and the associated Regional OPMET Centre (ROC)?

**YES** – Please go to question 1.c.

**NO** – Has your State planned to establish a direct AMHS connection, including FTBP, between the NOC and the associated ROC?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 1.c.

**NO** – Does your State need further assistance (from ICAO or other State/s) to establish a direct AMHS connection, including FTBP, between the NOC and the associated ROC?

**YES** – Please provide specifics [ ] – Please go to question 1.c.

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(1.b. cont.)

**NO** – Please provide further information on how your State will support the international exchange of meteorological information in IWXXM form between the NOC and the associated ROC [ \_\_\_\_\_ ] – Go question 1.c.

**1.c.** For States with a Regional OPMET Centre (ROC), please continue – *otherwise skip to question 1.e.* – Established an AMHS connection, including FTBP, between the ROC and all other ROCs in the APAC Region?

**YES** – Please go to question 1.d.

**NO** – Has your State planned to establish an AMHS connection, including FTBP, between the ROC and all other ROCs in the APAC Region?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 1.d.

**NO** – Does your State need further assistance (from ICAO or other State/s) to establish an AMHS connection, including FTBP, between the ROC and all other ROCs in the APAC Region?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 1.d.

**NO** – Please provide further information on how your State will support the international exchange of meteorological information in IWXXM form between the ROC and all other ROCs in the APAC Region [ \_\_\_\_\_ ] – Please go to question 1.d.

**1.d.** Established an AMHS connection, including FTBP, between the ROC and all the associated Inter-Regional OPMET Gateways (IROGs) in other ICAO regions?

**YES** – Please go to question 1.e.

**NO** – Has your State planned to establish an AMHS connection, including FTBP, between the ROC and all the associated IROGs in other ICAO regions?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 1.e.

**NO** – Does your State need further assistance (from ICAO or other State/s) to establish an AMHS connection, including FTBP, between the ROC and all the associated IROGs in other ICAO regions?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 1.e.

**NO** – Please provide further information on how your State will support the international exchange of meteorological information in IWXXM form between the ROC and all the associated IROGs in other ICAO regions [ \_\_\_\_\_ ] – Please go to question 1.e.

**1.e.** For States with a Regional OPMET Databank (RODB), please continue – *otherwise skip to question 2.* – Established storage capability for meteorological information in IWXXM form at the RODB?

**YES** – Please go to question 1.f.

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(1.e. cont.)

**NO** – Has your State planned to establish storage capability for meteorological information in IWXXM form at the RODB?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 1.f.

**NO** – Does your State need further assistance (from ICAO or other State/s) to establish storage capability for meteorological information in IWXXM form at the RODB?

**YES** – Please provide specifics [ ] – Please go to question 1.f.

**NO** – Please indicate why? [ ] – Please go to question 1.f.

**1.f.** Established request and reply service capability for meteorological information in IWXXM form at the RODB?

**YES** – Please go to question 2.

**NO** – Has your State planned to establish request and reply service for meteorological information in IWXXM form at the RODB?

**YES** – Please specify the planned operational date [MM/YYYY] – Please go to question 2.

**NO** – Does your State need further assistance (from ICAO or other State/s) to establish request and reply service for meteorological information in IWXXM form at the RODB?

**YES** – Please provide specifics [ ] – Please go to question 2.

**NO** – Please indicate why? [ ] – Please go to question 2.

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**2.** To support the international exchange of meteorological information in IWXXM form, has your State implemented the following ICAO Annex 3 provisions for dissemination of meteorological information in IWXXM (version 3) GML form:

**2.a.** Implemented the ICAO Annex 3 provisions for dissemination of METAR and SPECI in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in accordance with the code forms prescribed by the WMO; Ref: ICAO Annex 3, App. 3, 2.1.3]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.b.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.a. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.b.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.b.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.b.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.b.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.b.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 2.b.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 2.b.

**2.b.** Implemented the ICAO Annex 3 provisions for dissemination of TAF in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in the code forms prescribed by the WMO; Ref: ICAO Annex 3, App. 5, 1.1.2]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.c.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.b. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.c.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.c.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.c.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.c.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.c.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 2.c.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 2.c.

**2.c.** For States responsible for providing SIGMET information, please continue – *otherwise skip to question 2.d.* – Implemented the ICAO Annex 3 provisions for dissemination of SIGMET information in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in accordance with the template shown in ICAO Annex 3, Table A6-1A; Ref: ICAO Annex 3, App. 6, 1.1.6]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.d.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.c. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.d.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.d.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.d.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.d.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.d.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 2.d.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 2.d.

**2.d.** For States responsible for providing AIRMET information, please continue – *otherwise skip to question 2.e.* – Implemented the ICAO Annex 3 provisions for dissemination of AIRMET information in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in accordance with the template shown in ICAO Annex 3 [Table A6-1A]; Ref: ICAO Annex 3, App. 6, 2.1.6]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.e.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.d. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.e.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.e.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.e.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.e.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.e.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 2.e.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 2.e.

**2.e.** For States responsible for providing a Volcanic Ash Advisory Centre (VAAC), please continue – *otherwise skip to question 2.f.* – Implemented the ICAO Annex 3 provisions for dissemination of Volcanic Ash Advisory Information in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in abbreviated plain language; Ref: ICAO Annex 3, App. 2, 3.1.2]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.f.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.e. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.f.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.f.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 2.f.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 2.f.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 2.f.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 2.f.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 2.f.

**2.f.** For States responsible for providing a Tropical Cyclone Advisory Centre (TCAC), please continue – *otherwise skip to question 3.* – Implemented the ICAO Annex 3 provisions for dissemination of Tropical Cyclone Advisory Information in IWXXM (version 3) GML form? [i.e., in addition to the dissemination of the information in abbreviated plain language; Ref: ICAO Annex 3, App. 2, 5.1.3]

**YES** – For the above type of meteorological information, does your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 3.

**NO** – Does your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

QUESTIONNAIRE

2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(2.f. cont.)

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 3.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 3.

**NO** – Has your State planned to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please specify the planned implementation date [MM/YYYY] – For the above type of meteorological information, will your State perform the function of “IWXXM Producer”?

**YES** – Please go to question 3.

**NO** – Will your State have an agreement with another State to perform the function of “Data Translation Centre” to convert the above type of meteorological information disseminated by your State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of your State?

**YES** – Please indicate the other State [ \_\_\_\_\_ ] – Please go to question 3.

**NO** – Please specify your State’s arrangement for producing the above type of meteorological information in IWXXM (version 3) GML form [ \_\_\_\_\_ ] – Please go to question 3.

**NO** – Does your State need further assistance (from ICAO or other State/s) to implement the ICAO Annex 3 provisions for dissemination of the above type of meteorological information in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 3.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 3.

**3.** To support the exchange of meteorological information in IWXXM form, has your State made available suitable telecommunications facilities to permit the operational units concerned in your State to obtain the required meteorological information disseminated in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 4.

**NO** – Has your State planned to make available suitable telecommunications facilities to permit the operational units concerned in your State to obtain the required meteorological information disseminated in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please specify the planned implementation date [MM/YYYY] – Please go to question 4.

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(3. cont.)

**NO** – Does your State need further assistance (from ICAO or other State/s) to make available suitable telecommunications facilities to permit the operational units concerned in your State to obtain the required meteorological information disseminated in IWXXM (version 3) GML form?

**YES** – Please provide specifics [ \_\_\_\_\_ ] – Please go to question 4.

**NO** – Please indicate why? [ \_\_\_\_\_ ] – Please go to question 4.

**4.** If requested to do so, is your State capable of performing the function of “Data Translation Centre” to convert meteorological information disseminated by another State from traditional alphanumeric code (TAC) form into IWXXM (version 3) GML form on behalf of the other State?

**YES** – Please go to question 5.

**NO** – Please go to question 5?

**5.** One of the ways in which ICAO could further assist States with implementation of the ICAO provisions concerning the exchange of meteorological information in IWXXM form is through a dedicated Webinar providing participants with live, online educational presentations and the opportunity to submit questions and comments. Would a Webinar on the implementation of ICAO provisions concerning IWXXM, as outlined above, be worthwhile for your State?

**YES** – Please indicate from the list below, in order of preference (1 being highest), what would be the most appropriate month to conduct such a Webinar from your State’s perspective?

- August 2020
- September 2020
- October 2020

For Webinar participants in the APAC Region, a potential schedule may include online sessions of up to 3- to 4-hours per day, conducted between the hours 02 and 07 UTC, over a duration of 1-, 2- or 3-days. Considering the potential Webinar schedule, please indicate from the list below, in order of preference (1 being highest), what would be the most appropriate Webinar duration for your State?

- 1-day
- 2-days
- 3-days

A potential Webinar program may include a series of live, online educational presentations supplemented by online “question and answer” sessions on various, specific, IWXXM-related topics. Considering the potential Webinar program, please indicate from the list below, in order of priority (1 being highest), the most appropriate topics for your State:

- Implementation of AMHS, including FTBP
- Data capacity of the Aeronautical Fixed Service (AFS)
- Cyber security issues related to IWXXM exchange
- ICAO Annex 3 provisions for IWXXM

## QUESTIONNAIRE

### 2020 ICAO APAC Regional Survey on the Implementation of IWXXM and Extended AMHS

(5. cont.)

- Generation and use of meteorological information in IWXXM (version 3) GML form
- Translation of meteorological information from traditional alpha-numeric code (TAC) form into IWXXM form
- Provision and/or receipt of IWXXM translation services
- Exchanging of IWXXM messages
- Testing the exchange of IWXXM messages
- Vendors of IWXXM implementation solutions
- IWXXM logical model
- IWXXM XML schema
- IWXXM (version 3)
- Metadata in IWXXM messages
- Validation of IWXXM messages
- Intra- and/or Inter-Regional framework for IWXXM exchange
- Functions of national and/or regional centres/units in the exchange of IWXXM messages
- Other/s, please specify [\_\_\_\_\_]

– END

**NO** – Please indicate why and/or provide details of your State's alternative requirements for assistance, if any? [\_\_\_\_\_] – END