

International Civil Aviation Organization

ICAO

**WORKING PAPER**
**Asia and Pacific (APAC)  
Thirteenth Meeting of the Meteorological Requirements  
Working Group (MET/R WG/13)**

Bangkok, Thailand, 22 to 26 April 2024

**Agenda Item 2: Review outcomes of related meetings****FOLLOW-UP ACTION FROM MET SG/27**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the status of follow-up action on outcomes from the Twenty-seventh Meeting of the Meteorology Sub-group (MET SG/27) and invites the meeting to consider further actions for MET/R WG, as necessary, to support the follow-up action on the MET SG/27 outcomes.

**1. INTRODUCTION**

1.1 Outcomes from the Twenty-seventh Meeting of the Meteorology Sub-group (MET SG/27), in Bangkok, Thailand, from 4-8 September 2023, included two (2) Draft Conclusions and one (1) Draft Decision for further consideration by the APAC Air Navigation Planning and Implementation Regional Group (APANPIRG), and two (2) Conclusions and two (2) Decisions dealing with matters under the MET SG's terms of reference. In addition, MET SG/27 recorded thirteen (13) new action items in the MET SG List of Actions.

1.2 The meeting will review the status of follow-up action on the outcomes from MET SG/27, and consider further actions for the MET/R WG, as necessary, to support the follow-up action on the outcomes from MET SG/27.

**2. DISCUSSION**MET SG/27 – Draft Conclusions

2.1 The Draft Conclusions and Draft Decision formulated by MET SG/27 are listed below:

- Draft Conclusion MET SG/27-01: *IWXXM version compatibility*
- Draft Conclusion MET SG/27-03: *Global dissemination of IWXXM*
- Draft Decision MET SG 27-06: *Replacement of the VOLCEX Steering Group by the MET Exercise Advisory Group*

2.2 Under the terms of reference, MET SG formulates Draft Conclusions and Draft Decisions

on matters that will not be dealt with by the MET SG, but will be forwarded for further consideration by APANPIRG. The Draft Conclusions and Draft Decision formulated by MET SG/27 were further considered by the Thirty-fourth Meeting of APANPIRG (APANPIRG/34), held in Hong Kong, China from 11 to 13 December 2023. Discussion on the APANPIRG/34 outcomes on the above Draft Conclusions and Draft Decision is provided separately in MET/R WG/13, WP/04 – *FOLLOW-UP ACTION FROM APANPIRG/34*.

#### MET SG/27 – Conclusion and Decisions

2.3 The Conclusion and Decisions adopted by MET SG/27 are reproduced in **Appendix A** to this paper and listed below:

- Conclusion MET SG/27-02: *Provision of quality meteorological information*
- Conclusion MET SG 27-04: *Meteorological seminars*
- Decision MET SG/27-05: *Update the Regional Guidance for Tailored MET Information and Services to Support ATM Operations*
- Decision MET SG 27-07: *Restructure of MET work plan*

2.4 Under the terms of reference, MET SG adopts Conclusions and Decisions on matters that require the attention of States or action by the ICAO or relate to the internal working arrangements of the MET SG. The status of follow-up action on the above Conclusions and Decisions adopted by MET SG/27 is indicated in **Appendix A** to this paper.

#### MET SG/27 – List of Actions

2.5 The action items recorded in the Report of MET SG/27, Appendix A, List of Actions, are reproduced in **Appendix B** to this paper.

2.6 The List of Actions at **Appendix B** indicates the status of follow-up on the action items (in the last column). Updates to the status of follow-up on the action items since publishing of the Report of MET SG/27 are indicated by highlighted and strike-through text. *Note: action items which the MET SG previously agreed are completed, superseded (by other activities), closed or redundant, are removed from the list.*

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

3.1 This paper invites the meeting to:

- a) Review the status of follow-up action related to the MET SG/27 Conclusions and Decisions (as indicated at the **Appendix A** to this paper);
- b) Review the status of follow-up action on the MET SG/27 List of Actions (as indicated at the **Appendix B** to this paper); and
- c) Consider further actions for the MET/R WG, as necessary, to support the follow-up action from MET SG/27.

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## APPENDIX A

### MET SG/27 – Conclusions and Decisions

<b>Conclusion MET SG/27-02: Provision of quality meteorological information</b>		
What: That, States are reminded that the provision of specified meteorological information in IWXXM form has been an ICAO Annex 3 standard requirement since 2020. Where a State provides or arranges the provision of IWXXM information through translation services (from traditional alphanumeric code (TAC)-formatted information), the TAC-formatted information must be ICAO compliant; otherwise, translation errors occur, resulting in higher costs for users and preventing the benefits of IWXXM being obtained.	Expected impact:	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Most States are now producing meteorological information in IWXXM. However, users will only consider transitioning from TAC to IWXXM forms when they can reliably access quality IWXXM information from all the required States.	Follow-up:	<input checked="" type="checkbox"/> Required from States
When: 8-Sep-23	Status:	Adopted by Subgroup
Who:	<input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

<b>Conclusion MET SG 27-04: Meteorological seminars</b>		
What: That, MET SG coordinates the provision of meteorological seminars, covering topics related to ICAO changes, new procedures and policies, future services and information exchange to support States implementing ICAO Annex 3 requirements and education.	Expected impact:	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input checked="" type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Only a subset of APAC States currently attend ICAO meteorological-related meetings. Attendance (virtually) at ICAO meetings during COVID-19 demonstrated significant demand from States for further information. Attendance at ICAO meetings comes at an environmental and financial cost. The Meteorological Seminars will enable a wider group of stakeholders from more States to receive advice and stay informed of the latest ICAO developments, offering financial and environmental benefits.	Follow-up:	<input checked="" type="checkbox"/> Required from States
When: 8-Sep-23	Status:	Adopted by Subgroup
Who:	<input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

<b>Decision MET SG/27-05: Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations</b>		
What: That, the MET SG approves the proposed updates to the <i>Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations, including the example from Australia as an Appendix.</i>	Expected impact:	<input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To provide States with up-to-date guidance material and make the updated version available on the ICAO APAC eDocuments website	Follow-up:	<input type="checkbox"/> Required from States
When: As soon as practicable	Status:	Adopted by Subgroup

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Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:		
<b>Decision MET SG 27-07: Dissolution of MET/S WG</b>		
What:    That the MET SG: a)   Dissolves the MET/S WG as a distinct contributory body; b)   Realigns reporting of the VOLCEX SG (or its proposed replacement group, the MET Exercises Advisory Group); c)   Retains the two expert ad hoc groups that will report to MET SG on: i.    Rectification and Identification of Deficiencies; and ii.   Regional SIGMET Guide updates. d)   Retains the expert ad hoc group on SIGMET coordination, which will report to MET/R WG; and e)   Task the ad hoc group leads to report progress, as necessary, to the MET SG and WG Chairs Quarterly Meetings.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input checked="" type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical	
Why: 1.   To avoid duplication of effort at MET SG and WGs and unnecessary travel for participants; 2.   To make more effective use of participants' and ICAO's resources; and 3.   To improve the coordination and outreach with States, especially in the context of ICAO's No Country Left Behind initiative.	Follow-up: <input type="checkbox"/> Required                      from States	
When:                      8-Sep-23	Status: Adopted    by Subgroup	
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:		

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**APPENDIX B**

**MET SG – LIST OF ACTIONS**

(Note: Proposed updates are indicated with ~~strikethrough~~ and **highlighted** text)

**New action items recorded by MET SG/27**

MET SG – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
27/01	<p><b>MET Deficiencies related to IWXXM implementation:</b> Seek further advice from APANPIRG concerning identifying air navigation deficiencies in other States due to the lack of implementation of the Annex 3 standards for disseminating meteorological information in the IWXXM form. [Ref: Report of MET SG/27, para. 3.9.]</p> <p>Ref: APANPIRG/34, Report on Agenda Item 3.5, para. 3.5.11</p>	Secretariat	Dec 2023	<b>COMPLETED</b> <b>TO COMMENCE</b>
27/02	<p><b>Updates to the ICAO APAC ROBEX Handbook:</b> Coordinate with all the States concerned (ref: MET SG/27, WP/09 and WP/14) to incorporate the proposed updates in the ROBEX Handbook, Sixteenth Edition [ACTION MET SG/27-02] [Ref: Report of MET SG/27, para. 4.4.]</p> <p>Ref: MET/IE WG22, WP/19</p>	Secretariat	Dec 2023	<b>IN PROGRESS</b> <b>TO COMMENCE</b>
27/03	<p><b>Update to Regional SIGMET Guide:</b> Include the proposed example on guidance on SIGMET for volcanic ash crossing FIR boundaries, Appendix A of WP/10, in the next update of the APAC Regional SIGMET Guide. [Ref: Report of MET SG/27, para. 4.7.]</p>	Secretariat	Dec 2023	<b>TO COMMENCE</b>
27/04	<p><b>Volcanic ash advisory and SIGMET examples:</b> Review and revise the volcanic ash advisory and SIGMET examples in WP/10, Appendix B, when the OBS (or EST) VA CLD on the Volcanic Ash Advisory (VAA) indicates “VA NOT IDENTIFIABLE FM SATELLITE DATA”, to ensure consistency between the SIGMET and advisory information. [Ref: Report of MET SG/27, para. 4.8.]</p>	Ad hoc group in collaboration with the VAACs	Jul 2024 (MET SG/28)	<b>TO COMMENCE</b>
27/05	<p><b>Document of cases of SIGMET coordination:</b> Identify common SIGMET coordination practices from the document of cases of SIGMET coordination in WP/11 and develop further the document to separate the procedural information, which could potentially be used to supplement to the Asia/Pacific Regional SIGMET Guide. [Ref: Report of MET SG/27, para. 4.16.]</p>	Ad hoc group	Jul 2024 (MET SG/28)	<b>TO COMMENCE</b>
27/06	<p><b>Document on use cases and user requirements for SWIM-based MET information services supporting ATFM in the APAC region:</b> Present the document on use cases and user requirements for SWIM-based MET information services supporting ATFM in the APAC region to the ATM/SG/11 for review and feedback. [Ref: Report of MET SG/27, para. 4.17.]</p>	Ad hoc group	Oct 2023 (ATM/SG/11)	<b>COMPLETED</b>
27/07	<p><b>Update of VAAC backup procedures in APAC Regional SIGMET Guide:</b> Include the proposed updates for the example in Appendix A of WP/10 and the proposal in WP/13 in the eleventh edition of the Asia/Pacific Regional SIGMET guide. [Ref: Report of MET SG/27, para. 4.22.]</p>	Secretariat	Dec 2023	<b>TO COMMENCE</b>
27/08	<p><b>Siem Reap Angkor International Airport (VDSA) – ROBEX Handbook update:</b> Coordinate the necessary updates to incorporate VDSA in the ROBEX Handbook. [Ref: Report of MET SG/27, para. 5.2.]</p> <p>Ref: MET/IE WG22, WP/19</p>	Secretariat and Cambodia	Dec 2023	<b>IN PROGRESS</b> <b>TO COMMENCE</b>

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MET SG – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
27/09	<b>Siem Reap Angkor International Airport (VDSA) – METNO process:</b> Notify the update to the ROBEX system by following the METNO process. [Ref: Report of MET SG/27, para. 5.3.]	Responsible NOC	Dec 2023	TO COMMENCE
27/10	<b>Proposal for amendment of the APAC Air Navigation Plan:</b> Compile a proposal for amendment to the ANP incorporating amendments in WP/14 and paragraph 5.5. of the Report of MET SG/27 and seek confirmation from the States concerned before circulating the proposal for amendment to States and Organizations for comments and Regional agreement. [Ref: Report of MET SG/27, para. 5.6.]	Secretariat	Dec 2023	TO COMMENCE
27/11	<b>MET deficiencies review of 2022 SIGMET test:</b> Utilise the proposed actions in WP/17, Appendix A, when advising States of SIGMET corrective actions. [Ref: Report of MET SG/27, para. 5.9.]	Secretariat	Dec 2023	TO COMMENCE
27/12	<b>Proposed amendment to ICAO Annex 3:</b> Survey States on their needs for implementation support for the proposed amendment to ICAO Annex 3. [Ref: Report of MET SG/27, para. 5.17.]	Secretariat	Dec 2023	TO COMMENCE
27/13	<b>APAC SIGMET coordination activities</b> <del>Proposed amendment to ICAO Annex 3:</del> Update the online repository with the new SIGMET coordination activities between China and adjacent countries. [Ref: Report of MET SG/27, para. 6.6.]	Ad hoc group	Dec 2023	TO COMMENCE

**Unresolved action items recorded by MET SG/26**

MET SG – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
26/04	<b>APANPIRG AN Deficiencies – requirements for WAFS forecasts:</b> Provide technical assistance to help the States concerned understand and determine the requirements for WAFS forecasts. [Ref: Report of MET SG/26, para. 3.2.]  Ref: MET SG/27, WP/07 – Review APANPIRG Air Navigation Deficiencies	Secretariat	Nov 2022	IN PROGRESS
26/07	<b>APAC ANP, Volume III amendment – examples from other ICAO Regions:</b> Consider examples of Volume III adopted by other ICAO Regions in the MET work plan on a proposal for amendment of MET-specific material in the APAC ANP, Volume III. [Ref: Report of MET SG/26, para. 5.8.]  Ref: MET SG/27, WP/14 – Review of the Asia/Pacific Air Navigation Plan	Secretariat and MET/R WG	Nov 2022	IN PROGRESS
26/08	<b>APAC ANP, Volume II amendment – Nepal:</b> Initiate an appropriate proposal for amendment of the ANP Volume II, to reflect the requirements for aerodrome meteorological offices in Nepal. [Ref: Report of MET SG/26, para. 5.9.]  Ref: MET SG/27, WP/14 – Review of the Asia/Pacific Air Navigation Plan	Secretariat and Nepal	Nov 2022	IN PROGRESS

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**Unresolved action items recorded by MET SG/25**

MET SG – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
25/06	<b>Finalise the proposals for amendment of the APAC ANP (Vol I and II) and ROBEX Handbook</b> as agreed in previous meetings to ensure accuracy of the requirements specifications against which the OPMET monitoring is analysed [Ref: para. 4.6.-4.7.]  Ref: MET SG/27, WP/14 – Review of the Asia/Pacific Air Navigation Plan, and WP/09 – Updates to the ICAO APAC ROBEX Handbook	Secretariat	Nov 2021	<b>IN PROGRESS</b>
25/07	<b>Finalise a proposal for amendment of the APAC ANP (Table MET II-1) and consequential amendment to the APAC Regional SIGMET Guide</b> as necessary to ensure the correct use of FIR indicator for Port Moresby [Ref: para. 4.12.-4.14.]  Ref: MET SG/27, WP/14 – Review of the Asia/Pacific Air Navigation Plan, and APAC Regional SIGMET Guide, Tenth Edition, uploaded to the ICAO APAC website: <a href="https://www.icao.int/APAC/Pages/eDocs.aspx">https://www.icao.int/APAC/Pages/eDocs.aspx</a>	Secretariat	Nov 2021	<b>IN PROGRESS</b> ANP amendment pending; SIGMET Guide amended, 9 <sup>th</sup> Ed.
25/09	<b>Review SIGMET Guide</b> as necessary to guide MWOs to handle cases when VAAC would not hand over to the neighbouring VAAC even if the ash cloud is expected to cross the AoR [Ref: para. 4.12.-4.14.]	MET/S Ad hoc group	Mar 2023	<b>TO COMMENCE</b>
25/12	<b>Provide updates to the contact lists in the ICAO Doc 9766-AN/968 (Handbook on the International Airways Volcano Watch (IAVW))</b> to the ICAO METP [Ref: para. 5.15.]	MET SG, Secretariat MET/S-WG; MET/IE-WG	Mar 2022	<b>TO COMMENCE</b>
25/13	<b>Coordinate possible SWX advisory exercise/s and training workshop/s</b> with the appropriate body under METP for [Ref: para. 5.28.]  Ref: ICAO APAC webinar on space weather information service (TBD) Ref: Secretariat to coordinate with Australia [MET/IE WG/20 - ACTION 01] Ref: MET/R WG new deliverable #7 to promote user education on SWX service.	Secretariat MET/S-WG; MET/IE-WG	Nov 2021	<b>IN PROGRESS</b>

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