

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE**



**REPORT OF THE THIRTIETH MEETING OF THE ASIA/PACIFIC METEOROLOGY
SUB-GROUP (MET SG/30)**

Bangkok, Thailand, 20 – 24 July 2026

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Approved by the Meeting
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HISTORY OF THE MEETING

1. Introduction

1.1. The ICAO Asia and Pacific (APAC) Office hosted the Thirtieth Meeting of the Meteorology Sub-group (MET SG/30) of the APAC Air Navigation Planning and Implementation Regional Group (APANPIRG) in Bangkok, Thailand, from 20 to 24 July 2026.

2. Attendance

2.1. The meeting was attended by sixty-three (63) participants from 20 Member States and two (2) Special Administrative Regions, including Australia, Bhutan, China, Hong Kong China, Macao China, Japan, Lao PDR, Maldives, Malaysia, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United Kingdom, United States, Viet Nam, and ICAO. The list of participants is provided in **Appendix A** (List of Participants).

3. Chair and Secretariat

3.1. Ms. Paula Acethorp, Chief Meteorological Officer, Civil Aviation Authority of New Zealand, presided as Chair over the meeting and was assisted by Mr. Goh Wee Poh, Head, Central Forecast Office, Forecast Operations Department, Meteorological Service Singapore, as Vice-Chair, and Mr. Peter Dunda, ICAO Regional Officer, Aeronautical Meteorology and Environment, as Secretary.

4. Organisation, Papers and Language of the Meeting

4.1. The Meeting convened as a single body for discussion on the agenda items. The working language was English, including all documentation. The Meeting considered thirty (30) Working Papers (WPs), sixteen (16) Information Papers (IPs), four (4) Flimsies (FLs), and two (2) Slide Presentations (SPs). The list of papers, flimsies and presentations is in **Appendix B** (List of Papers).

5. Draft Conclusions, Draft Decisions, Conclusions and Decisions

5.1. The Meeting recorded outcomes of discussions in the form of Draft Conclusions and Draft Decisions for further consideration by APANPIRG, and Conclusions and Decisions for the MET SG, within the following definitions:

- a) **Draft Conclusions** (formulated by the Sub-group for further consideration by APANPIRG) deal with matters involving economic, environmental or political aspects or global implications that, according to the APANPIRG terms of reference, will not be dealt with by the Sub-group but require the attention of States, or action by the ICAO, following established APANPIRG procedures.
- b) **Draft Decisions** (formulated by the Sub-group for further consideration by APANPIRG) deal with matters of concern only to APANPIRG and its contributory bodies.
- c) **Conclusions** (adopted by the Sub-group) deal with matters of a technical nature and regional applicability that, according to the Sub-group's terms of reference, require the attention of States or action by the ICAO, following established APANPIRG procedures.
- d) **Decisions** (adopted by the Sub-group) relate solely to matters dealing with the internal working arrangements of the Sub-group.

5.2. The Meeting formulated the following four (4) Draft Conclusions and one (1) Draft Decision, and adopted the following three (3) Conclusions and six (6) Decisions, as indicated within the Report on Agenda Items and recorded in **Appendix C** (Draft Conclusions, Draft Decisions,

Conclusions and Decisions):

Draft Conclusions

Draft Conclusion MET SG/30-01 — IWXXM Version Compatibility
Draft Conclusion MET SG/30-02 — Dissemination of IWXXM
Draft Conclusion MET SG/30-11 — Improvements to APAC ANP MET Information
Draft Conclusion MET SG/30-12 — Amendment of the APAC ANP for the Provision of OPMET Information in IWXXM Form

Draft Decisions

Draft Decision MET SG/30-14 — Revised MET SG Terms of Reference and Work Plan

Conclusions

Conclusion MET SG/30-03 — Lack of Provision of IWXXM Format SIGMET
Conclusion MET SG/30-04 — Lack of Provision of IWXXM Format Advisories
Conclusion MET SG/30-05 — Potential Deficiencies in Provision of METAR and/or TAF

Decisions

Decision MET SG/30-06 — Reporting of Performance Information in MET SG Papers
Decision MET SG/30-07 — Updates to Regional SIGMET Guide
Decision MET SG/30-08 — Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations
Decision MET SG/30-09 — Updates to the APAC ROBEX Handbook
Decision MET SG/30-10 — Trial Implementation of Online Digital METAR/TAF Tables
Decision MET SG/30-13 — Special Air-Report Survey Development

6. Actions

6.1. In addition, the Meeting agreed to seventeen (17) actions, as indicated within the Report on Agenda Items and recorded in **Appendix D** (List of Actions).

REPORT ON AGENDA ITEMS

1. Organizational Matters

Opening of the Meeting

- 1.1. The Secretary, the Chairperson and the Vice-Chairperson opened the Meeting and welcomed all participants.

WP/01 Adoption of the Agenda – Secretariat

- 1.2. The meeting adopted the agenda (which was circulated with the invitation) as follows:

Agenda Item 1: Organizational Matters

Agenda Item 2: Review Outcomes from Previous Meetings

Agenda Item 3: Air Navigation Deficiencies

Agenda Item 4: Regional Guidance Material

Agenda Item 5: Planning and Monitoring

Agenda Item 6: Turbulence Information

Agenda Item 7: Aviation Exercises for Volcanic Ash and Meteorological Events

Agenda Item 8: Research, Development and Other Initiatives

Agenda Item 9: Environmental-Related Initiatives and Impacts

Agenda Item 10: Future Work Program

Agenda Item 11: Any Other Business

2. Review Outcomes from Previous Meetings

WP/02 Review Outcomes from MET SG/29 and APANPIRG/36 – Secretariat

- 2.1. The meeting reviewed the outcomes of Twenty-ninth Meeting of the Meteorology Sub Group (MET SG/29) and Thirty-sixth Meeting of the APAC Air Navigation Planning and Implementation Regional Group (APANPIRG/36), including adopted Draft Conclusions, Conclusions, Decisions and action items, and the status of follow-up actions related to their implementation. The meeting recalled that MET SG/29 developed six Draft Conclusions for consideration by APANPIRG, adopted two Conclusions and seven Decisions, and recorded thirty new action items.

- 2.2. The meeting noted that APANPIRG/36 adopted fourteen Conclusions, including seven directly relevant to the MET SG and its working groups, of which five originated from MET SG/29 Draft Conclusions. The meeting further noted that APANPIRG/36 did not adopt the proposal to establish a new group to address long-standing air navigation deficiencies and instead agreed that Sub-group Chairs and the Secretariat would jointly propose practical and sustainable approaches to address those deficiencies, with a report on progress expected for APANPIRG/37.

- 2.3. The meeting noted the information provided by the Secretariat regarding APANPIRG/36's review of Decision APANPIRG/35/11 on additional Secretariat support. It was recalled that APANPIRG/36 had considered the decision complete following the anticipated recruitment of an additional Regional Officer in the environment field, while noting concerns previously raised by the MET SG Chair and Secretariat that closure of the activity may have been premature. The

Secretariat advised that the recruitment had since been completed and was expected to provide greater capacity to support the work of the MET and Environment programme areas.

2.4. The Secretariat further noted that a significant number of outstanding Conclusions, Decisions and Action Items assigned to the Secretariat remained unresolved, including several overdue activities. While acknowledging the delays, the Secretariat indicated that efforts would continue to progress these items and expressed the expectation that the additional staffing support would assist in addressing the remaining workload.

2.5. The meeting reviewed the follow-up status of MET SG/29 Conclusions, Decisions and action items, together with outstanding actions from previous meetings, as presented in the lists of Conclusions, Decisions and Actions. The meeting also noted the invitation to assess progress and consider any further actions needed to support implementation of the MET SG work plan, ICAO SARPs, and global and regional plans in the APAC Region.

2.6. The meeting discussed the process used to monitor, update and report on the status of Conclusions, Decisions and Action Items arising from previous meetings. Members noted that a number of items remained listed as “in progress” despite target dates having passed, in some cases by more than a year, and expressed concern that the meeting had limited visibility of the planned follow-up and expected completion timeframes for outstanding actions. Participants considered that greater coordination and review of status information before meetings would improve the maturity and accuracy of progress reports and enable more effective use of meeting time.

2.7. The meeting suggested that updated status information, including revised target dates where appropriate, be shared with responsible parties sufficiently in advance of meetings to allow review and input before presentation to the Sub-group. It was noted that this would also enable the meeting to identify items requiring greater attention and, where necessary, provide guidance on priorities. The Secretariat acknowledged the comments and agreed that a more structured approach to the preparation and circulation of status reports would be beneficial.

2.8. The meeting further agreed that discussion of individual action items should be limited to those requiring significant updates, correction of status, or further attention, rather than reviewing every item in detail. Members were invited to identify any actions considered complete or requiring substantive amendment, and the Chair indicated that the Secretariat would update the status information accordingly during the course of the meeting.

2.9. On further review of the follow-up status on the MET SG/29 and APANPIRG/36 outcomes, the meeting agreed to several updates as indicated in **Appendix C** (Draft Conclusions, Draft Decisions, Conclusions and Decisions) and **Appendix D** (List of Actions) of this Report.

WP/04 Review Outcomes from MET/R WG/15 – MET/R WG Chair

2.10. The meeting reviewed the outcomes of the Fifteenth Meeting of the Meteorological Requirements Working Group (MET/R WG/15), including the joint plenary session with the Sixteenth Meeting of the APAC Air Traffic Flow Management (ATFM) and Airport Collaborative Decision-Making (CDM) Steering Group (ATFM & A-CDM/SG/16). The meeting noted the key outcomes, decisions, actions and updates to the MET/R WG work plan.

2.11. The meeting noted that MET/R WG/15 reviewed follow-up actions arising from MET/R WG/14, MET SG/29 and APANPIRG/36. The meeting further noted that all MET/R WG/14 draft conclusions and decisions had been completed or closed, that good progress had been made in closing earlier outcomes, and that several actions relating to future meteorological (MET) information supporting air traffic management (ATM) surveys, future MET/ATM seminars and regional SIGMET

coordination guidance remained in progress.

2.12. The meeting noted the outcomes of discussions on collaboration between MET and ATM stakeholders, including operationally focused MET services supporting ATM decision-making, future MET/ATM seminar activities, development of a future survey of State MET information supporting ATM, updates to regional guidance for tailored MET information and services supporting ATM operations, development of System-Wide Information Management (SWIM)-based MET information service use cases, future ICAO MET information services, SIGMET coordination activities, and proposed amendments to the MET/R WG Terms of Reference and Work Plan.

2.13. The meeting recalled that MET/R WG/15 adopted Decision MET/R WG 15-01 to establish a small joint task group to further develop a proposal for a future joint MET/ATM Seminar. The meeting noted that the activity was intended to strengthen MET–ATM operational integration by building on the benefits of previous joint initiatives and supporting future operational requirements.

2.14. The meeting recalled that MET/R WG/15 adopted Decision MET/R WG 15-02 to continue development of a proposal for a follow-up regional survey of State MET information supporting ATM and to expand the existing ad hoc group to include representatives from the ATFM & A-CDM/SG community. The meeting noted that further work was required to define the scope and operational value of any future survey and to ensure alignment with regional priorities, including MET–ATM integration, SWIM and ATFM.

2.15. The meeting recalled that MET/R WG/15 adopted Decision MET/R WG 15-03 to task the MET/R WG ad hoc group with coordinating the review and finalisation of the draft APAC Regional Guidance for Tailored MET Information and Services to Support ATM Operations for submission to MET SG/30. The meeting noted that the activity was intended to support the approval of updated guidance material for States.

2.16. The meeting reviewed the proposed amendments to the MET/R WG Terms of Reference arising from MET/R WG/15, including a proposed new function to consider and address the MET information requirements of all aeronautical MET service users identified in ICAO Annex 3.

2.17. During the discussion, concern was expressed that the proposed function could blur the distinction between the role of the MET/R WG and the work of the ICAO Meteorology Panel (METP). It was noted that the MET SG and its contributory bodies are primarily concerned with facilitating the implementation of ICAO MET provisions, whereas the identification of MET requirements for all users falls within the remit of the METP and its associated working arrangements. While support was expressed for continued MET/R WG collaboration with ATM and ATFM stakeholders on specific operational requirements, concern was raised that the proposed function extended beyond implementation matters and could overlap with global work on MET requirements. The meeting noted the concern while recognising the value of the other proposed amendments to the Terms of Reference.

2.18. The meeting agreed to take the comments into account in its further review of the proposed amendments. The meeting endorsed the proposed updates to the MET/R WG Terms of Reference, subject to further revision of the proposed functions to address the concerns raised during the discussion. The endorsed Terms of Reference are contained in **Appendix E**.

WP/03 Review Outcomes from MET/IE WG/24 – MET/IE WG Chairs

2.19. The meeting reviewed the outcomes of the Twenty-Fourth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/24), held in Nadi, Fiji, from 21 to 24 April 2026. The meeting noted the discussions and outcomes related to follow-up actions from

previous meetings, SIGMET testing, OPMET¹ monitoring, regional guidance material, MET information exchange in a SWIM environment, ICAO MET Information Exchange Model (IWXXM) implementation, and future work planning. The meeting further noted the updated MET/IE WG List of Actions and the proposed revisions to the MET/IE WG Terms of Reference and Work Programme.

2.20. The meeting noted that MET/IE WG/24 reviewed the status of outcomes and action items from previous meetings and discussed the need to improve the monitoring and reporting of follow-up actions. Concern was expressed regarding a number of unresolved Secretariat action items and the impact of Secretariat capacity constraints on progressing outstanding work. The meeting noted that progress on these items would continue to be monitored and reviewed by the MET SG. The meeting also noted updates to the MET/IE WG List of Actions, including actions relating to OPMET monitoring, SIGMET testing, ROBEX Handbook maintenance, IWXXM implementation, volcano observatory notice for aviation (VONA) dissemination and SWIM-related activities.

2.21. The meeting noted the significant outcomes from the 2025 regional SIGMET test programme and OPMET monitoring activities. It was noted that participation in the WS/LS SIGMET Test increased to 90 per cent, with improved issuance of LS SIGMET in IWXXM form compared with 2024. The meeting also noted continued improvements in OPMET performance by several States following corrective actions, including improvements reported by Indonesia and Singapore. At the same time, the meeting noted a number of issues requiring further attention, including limited reception of some SIGMET test messages, incomplete dissemination of IWXXM information, communication failures affecting OPMET exchange, and low OPMET performance indices identified during monitoring. The meeting welcomed the investigations and corrective actions undertaken by States and recognised the value of SIGMET testing and OPMET monitoring in identifying and resolving operational issues.

2.22. The meeting noted that MET/IE WG/24 considered information indicating that many States continued to exchange IWXXM OPMET data using versions no longer aligned with Amendment 82 to ICAO Annex 3, creating potential IWXXM version compatibility issues. The meeting further noted that regional implementation remained uneven, with only 10 of 17 Regional OPMET Centres (ROCs) routinely disseminating IWXXM messages, most National OPMET Centres (NOCs) unable to receive IWXXM messages, and several States lacking the Air Traffic Services (ATS) Message Handling Service (AMHS) capabilities required to support international IWXXM exchange. The meeting agreed to adopt the following Draft Conclusion MET SG/30-01 on IWXXM Version Compatibility, subject to editorial amendments discussed during the meeting, and Draft Conclusion MET SG/30-02 on Dissemination of IWXXM, as amended, recognising the need to support regional and global dissemination of meteorological information in IWXXM form and the transition from traditional alphanumeric code (TAC) to IWXXM:

Draft Conclusion MET SG/30-01 — IWXXM Version Compatibility	
What: That, States/Administrations are requested to ensure that MET service providers, air navigation service providers (ANSPs), airlines and other end users do the following: a) make the necessary system upgrades to support the IWXXM version 2025-2, which complies with the latest amendment to Annex 3 as stated in the IWXXM compatibility table*; and b) prepare for future system upgrades to support future IWXXM versions	Expected impact: ☐ Political / Global ☒ Inter -Regional ☒ Economic ☐ Environmental ☒ Ops/Technical

¹ In the context of MET/IE WG monitoring activities, OPMET includes aerodrome routine MET reports (METAR) and aerodrome forecasts (TAF)

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driven by further amendments to Annex 3. *Link to the IWXXM compatibility table: https://wmo.int/iwxxm [ICAO be requested to advise States/Administrations accordingly.]	
Why: Many States are exchanging IWXXM OPMET data in older versions of IWXXM which are no longer compliant with Amendments 82 to ICAO Annex 3. To avoid the potential impact on operations due to IWXXM version compatibility issues, States must upgrade the systems for generating, exchanging and consuming IWXXM reports to support the IWXXM version that complies with the latest amendment to Annex 3.	Follow-up: ☒ Required from States
When: As soon as practicable	Status: Draft to be adopted by APANPIRG
Who: ☒ Sub Groups ☐ RASG-APAC ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: XXXX	

Draft Conclusion MET SG/30-02 — Dissemination of IWXXM	
What: That: a) APAC Regional OPMET Centres (ROCs) and Inter-Regional OPMET Gateways (IROGs), namely Bangkok, Brisbane, Colombo, Delhi, Karachi, Kolkata, Mumbai, Nadi, and Tokyo, expedite the implementation of network circuits and communication services necessary to enable the required regional global dissemination of meteorological information in the ICAO Meteorological Information Exchange Model (IWXXM) form including support for the Air Traffic Services Message Handling System (AMHS) with File Transfer Body Part (FTBP) and Interpersonal Message Heading Extension (IHE), and backup paths for redundancy purposes; and b) To support intra-regional exchange of IWXXM, the IROGs establish operational IWXXM exchange with IROGs in the ICAO AFI, MID, NAM and SAM Regions. c) States to inform ICAO of their plan, including timeframe, to implement the required capability and to advise when complete. [ICAO be requested to advise relevant States/Administrations accordingly.]	Expected impact: ☐ Political / Global ☒ Inter -Regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: Following the provisions of ICAO Annex 3– Meteorological Service for International Air Navigation (applicable 2020), States shall ensure that certain meteorological information is disseminated to users in the IWXXM form. However, without suitable configured communication networks to support the necessary intra- and inter-regional exchange of IWXXM messages, global dissemination of meteorological information in IWXXM form will not be possible. Consequently, the migration of user and supplier systems from meteorological information in the traditional alphanumeric code (TAC) form to the IWXXM form, as required in Amendment 79 to Annex 3 (applicable Nov 2020), will remain inhibited.	Follow-up: ☒ Required from States
When: As soon as practicable	Status: Draft to be adopted by APANPIRG
Who: ☒ Sub Groups ☐ RASG-APAC ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: XXXX	

2.23. The meeting noted the discussions on MET information exchange in a SWIM

environment, including guidance developed by the ICAO METP, implementation of APAC Common SWIM Information Services, regional readiness for IWXXM exchange, communication infrastructure requirements, alternative pathways for IWXXM exchange, and planning for the transition from TAC-based exchange. The meeting also noted discussions related to support for Pacific Small Island Developing States (PSIDS) in implementing IWXXM requirements and sustaining compliance with associated ICAO provisions.

2.24. The meeting reviewed the proposed updates to the MET/IE WG Terms of Reference and Work Programme and endorsed the proposed amendments contained in **Appendix E**. The meeting noted that the proposed updates reflected evolving work related to SWIM, IWXXM implementation, cessation of international TAC exchange, regional readiness for approved IWXXM versions, and ongoing support for MET information exchange activities in the APAC Region.

2.25. The meeting noted the benefits of Fiji hosting MET/IE WG/24 and the associated ICAO workshop on supporting State implementation of MET services. It was noted that hosting the event in Fiji enabled greater participation by Pacific States, provided targeted technical support and direct engagement with ICAO experts, and strengthened regional collaboration through the exchange of operational experience and technical knowledge. The meeting recorded its appreciation to Fiji for successfully hosting both events and noted the value of continuing to hold future meetings in the Pacific where practicable.

WP/27 Progress on Adding WIFS Data to Annual SIGMET Test – United States

2.26. The meeting reviewed information on the progress of adding World Area Forecast System (WAFS) Internet File Service (WIFS) data to the annual SIGMET tests, recalling that the United States had agreed at MET SG/29 to include WIFS data content in the annual SIGMET testing. The meeting acknowledged that the inclusion of WIFS in the annual SIGMET tests met the request of MET SG/29. The meeting further noted that data for all three SIGMET tests conducted in November 2025 had been collected and was provided in the appendices to the paper, and it looked forward to the inclusion of WIFS information in future SIGMET tests analyses going forward.

2.27. The meeting noted that WIFS SIGMET availability is dependent upon the Washington Inter-Regional OPMET Gateway (IROG)/Regional OPMET Data Bank (RODB), which serves as the data collection point and immediately forwards SIGMET messages to WIFS. The meeting further noted that the information was not available to testers in early 2026 but that this issue would be addressed for 2027.

2.28. The meeting noted that ICAO Member States could check the availability of their State's data through AviationWeather.gov, which serves as a proxy for the information available on WIFS, and that States not seeing their SIGMET information could submit an enquiry, including an example of the product with the full header and WMO identifier.

WP/28 Updating US International Collectives – United States

2.29. The meeting reviewed information provided by the United States on the update of United States international OPMET collectives. The meeting noted that the Washington IROG completed the update of numerous non-ICAO-compliant collectives in October 2025 and that the affected collectives had been identified through a published notification.

2.30. The meeting noted that the Washington IROG had removed most, if not all, non-ICAO-compliant bulletins from international distribution. The meeting further noted that approximately 26 non-ICAO-compliant United States TAF and METAR collectives, previously identified by States as causing issues with decoders and other systems, had been removed and replaced with approximately

380 native¹ bulletins.

2.31. The meeting noted that the Washington IROG had requested States to advise of any additional non-compliant bulletins that may have been missed during the update process and that, at the time of writing the paper, no complaints had been received regarding the changes.

3. Air Navigation Deficiencies

WP/06 Review of APANPIRG Air Navigation Deficiencies in the MET Field – Secretariat

3.1. The meeting reviewed the status of APANPIRG air navigation deficiencies in the MET field. The meeting noted that twelve open MET-related deficiencies affecting seven States remain recorded in the APANPIRG Air Navigation Deficiency Database. The deficiencies relate to aerodrome MET observations and reports, SIGMET services, volcanic ash and volcanic activity information, and WAFS forecasts and flight briefing services.

3.2. The meeting noted that APANPIRG/36 reviewed the status of MET-related deficiencies and that all twelve deficiencies remained open. The meeting further noted that potential deficiencies identified through MET SG monitoring activities, including findings related to the implementation of IWXXM provisions, had been referred to the ICAO APAC Regional Office for assessment in accordance with the APANPIRG deficiency management process and this assessment had not yet been carried out at the time of preparation of the paper. The APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field, reviewed by APANPIRG/36, is in **Appendix F**.

3.3. The meeting noted progress reported towards the resolution of existing deficiencies, including actions reported by Papua New Guinea to address deficiencies AP-MET-08, AP-MET-22 and AP-MET-24, and its request for their removal from the open list. The meeting further noted that validation by the ICAO APAC Regional Office remained pending in accordance with the APANPIRG deficiency management process and that the deficiencies therefore remained recorded as open in the Database.

3.4. The meeting noted that APANPIRG continues to monitor implementation of the APAC Air Navigation Plan (ANP) through its subsidiary bodies and supports States in identifying, reporting and resolving deficiencies through the APANPIRG deficiency management process. The meeting further noted that Corrective Action Plans (CAPs) remain the primary mechanism for resolving identified deficiencies.

3.5. The meeting noted that APANPIRG/36 endorsed the current list of air navigation deficiencies and adopted Conclusion APANPIRG/36/19, requesting ICAO to update the Air Navigation Deficiency Database and urging States and Administrations to establish action plans with target dates, report progress, and maintain current deficiency focal point information.

3.6. The meeting reviewed the status of the open APANPIRG MET deficiencies, including reported progress towards their resolution, updates to CAPs, the relationship between potential deficiencies identified through monitoring activities and existing deficiencies recorded in the Database, and the contact details of designated deficiency focal points. The meeting noted that States with open deficiencies should review and update their CAPs, including target completion dates and focal point

¹ "native" in the context of coming from the actual countries and, as confirmed in the meeting discussion by Australia and the United States, bulletins generated by other States and redistributed in their original form rather than being recreated into new collectives by the United States.

information, and provide updated information to the ICAO APAC Regional Office.

3.7. The meeting recalled that APANPIRG/36 did not establish a dedicated group to address long-standing air navigation deficiencies and instead agreed that APANPIRG Sub-group Chairs and the Secretariat would work together to develop practical approaches to accelerate the resolution of persistent deficiencies and report progress to APANPIRG/37. The meeting noted that this approach also applied to long-standing MET deficiencies and agreed that the MET SG Chair and the Secretariat would continue this work and provide an update to APANPIRG/37.

3.8. The meeting noted information presented by Tonga during the *ICAO APAC Workshop: Supporting State Implementation of Meteorological Services*, held in conjunction with MET/IE WG/24, regarding progress made towards resolving Deficiency AP-MET-17. The meeting noted that Tonga had established and signed formal arrangements between the relevant organisations responsible for meteorological, geological and aviation services to support the provision of information on volcanic activity and volcanic ash. The meeting recognised this as a significant step towards resolving the deficiency.

3.9. The meeting further noted that volcanic activity information in the form of VONA was currently disseminated by e-mail rather than through the Aeronautical Fixed Service (AFS), and that this could limit wider awareness of significant volcanic unrest by aviation users. The meeting discussed the relationship between VONA dissemination, the issuance of NOTAM for significant volcanic activity, and the need to ensure relevant information is available to aviation stakeholders. The meeting agreed that the issue should be brought to the attention of the ATM Sub-Group for further consideration.
[Action Item MET SG/30-01]

3.10. The meeting also discussed the APANPIRG deficiency identification process and noted concerns regarding differing interpretations and application of the deficiency management procedures between APANPIRG Sub-groups and potentially between ICAO regions. The meeting recalled that the MET SG currently identifies information indicating potential deficiencies and refers that information to the ICAO APAC Regional Office for assessment in accordance with the APANPIRG deficiency management process. The meeting considered that clarification would be beneficial to ensure a common understanding and consistent application of the procedures.

3.11. The meeting agreed that the Secretariat should seek clarification on the interpretation and application of the APANPIRG deficiency identification procedures, including consideration of practices applied by other APANPIRG Sub-groups and, where appropriate, other ICAO regions. The meeting further agreed to consider the outcome of this review and whether a proposal to APANPIRG, including a possible Draft Conclusion requesting ICAO to address the matter, would be appropriate.
[Action Item MET SG/30-02]

WP/07 MET Deficiencies Review of Annual SIGMET Test and Performance Indices – Ad Hoc Group

3.12. The meeting reviewed the outcomes of the MET Deficiencies ad hoc group review of the 2025 ICAO APAC Regional SIGMET Test and the 2025 APAC Performance Indices for METAR and TAF, including the provision of MET information in IWXXM format. The meeting noted that the review was conducted in accordance with the MET Deficiency Identification Guide and that the outcomes of monitoring activities are indicators of potential deficiencies which require assessment and validation by the ICAO APAC Regional Office in accordance with the APANPIRG deficiency management process.

3.13. The meeting noted the results of the 2025 SIGMET testing in both TAC and IWXXM formats. The meeting further noted improvements in IWXXM SIGMET issuance by several States,

including Cambodia, Indonesia and the Republic of Korea, while a number of States continued to have missing IWXXM SIGMETs and/or advisory messages during the testing period. The meeting also noted progress reported by Papua New Guinea towards resolution of SIGMET-related deficiencies, including successful participation in the WS SIGMET test and confirmation that operational SIGMETs for the Nauru and Port Moresby Flight Information Regions (FIRs) were being disseminated successfully via the AFS.

3.14. The meeting reviewed the results of the 2025 APAC Performance Indices for METAR and TAF availability and timeliness. The meeting noted that the review identified a number of States with TAC and/or IWXXM performance results below the agreed 95 per cent threshold and that such results may occur for a variety of reasons, including temporary communication outages. The meeting further noted that the performance indices should be used by States as part of quality management procedures to identify opportunities for improvement.

3.15. The meeting noted that Afghanistan and Democratic People's Republic of Korea did not have METAR and TAF locations included in the APAC Performance Indices because the locations were not included in bulletins listed in the ROBEX Handbook, although aerodrome MET services for those locations are included in the APAC ANP. The meeting reviewed whether any action was required to include information on METAR and TAF dissemination for those locations in the ROBEX Handbook and APAC Performance Indices activities. **[Action Item MET SG/30-03]**

3.16. The meeting adopted the following Conclusion MET SG/30-03 — Lack of Provision of IWXXM Format SIGMET, recommending that the ICAO APAC Regional Office, in its role assessing potential deficiencies, review information concerning the lack of IWXXM implementation for SIGMET issuance by the States identified in the paper. The meeting agreed that the conclusion would be finalized following consideration of all relevant proposals presented under Agenda Item 3. The meeting agreed to this action because SIGMET information in IWXXM format is a Standard in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency:

Conclusion MET SG/30-03 — Lack of Provision of IWXXM Format SIGMET	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on the lack of IWXXM implementation for SIGMET issuance: Afghanistan, Bangladesh, DPR Korea, India, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Pakistan, Papua New Guinea, Sri Lanka, Viet Nam	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: SIGMET information in IWXXM format is a Standard in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Adopted by Subgroup
Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

3.17. The meeting adopted the following Conclusion MET SG/30-04 — Lack of Provision of IWXXM Format Advisories, recommending that the ICAO APAC Regional Office review information concerning the lack of IWXXM implementation for volcanic ash advisory and tropical cyclone advisory issuance by the centres identified in the paper. The meeting agreed that the conclusion would be finalized following consideration of all relevant proposals presented under Agenda Item 3. The meeting agreed to this action because tropical cyclone and volcanic ash advisory information in IWXXM format is a requirement in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency:

Conclusion MET SG/30-04 — Lack of Provision of IWXXM Format Advisories	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on the lack of IWXXM implementation for advisory issuance: Volcanic ash advisory (VAA): United States, Tropical cyclone advisory (TCA): United States, India, Fiji, France	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Tropical cyclone and volcanic ash advisory information in IWXXM format is a requirement in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Adopted by Subgroup
Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

3.18. The meeting adopted the following Conclusion MET SG/30-05 — Potential Deficiencies in Provision of METAR and/or TAF, recommending that the ICAO APAC Regional Office review information concerning aerodrome observations and forecasts that did not meet the required availability and/or timeliness standard for TAC and/or IWXXM OPMET provision during the monitoring period of 1–30 November 2025 and follow up with the relevant States on their latest status. The meeting agreed that the conclusion would be finalized following consideration of all relevant proposals presented under Agenda Item 3. The meeting agreed to this action because the provision of METAR and TAF is a Standard in ICAO Annex 3 and required by the APAC ANP, and therefore not meeting the 95 per cent threshold for timeliness or availability should be considered as a potential deficiency:

Conclusion MET SG/30-05 — Potential Deficiencies in Provision of METAR and/or TAF	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on aerodrome observations and/or forecasts that do not meet the required availability and/or timeliness standard for TAC and/or IWXXM OPMET provision during the monitoring period of 1-30 November 2025, and follow up with the relevant States on their latest status. For TAC and IWXXM OPMET provision: Bangladesh, Bhutan, China, Cook Islands, Fiji, India, Indonesia, Kiribati, Lao PDR, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, New Caledonia, Niue, Pakistan, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, United States, Vanuatu, Wallis and Futuna (France). For IWXXM OPMET provision only: Brunei Darussalam, Nepal, Republic of Korea, Viet Nam	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Provision of METAR and TAF is a Standard in ICAO Annex 3 and required by the APAC Air Navigation Plan, therefore not meeting the 95% threshold for timeliness or availability should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Adopted by Subgroup

Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	
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3.19. During the discussion, the United States acknowledged the monitoring results related to the international exchange of MET information in IWXXM form and advised that the identified issues were linked to current limitations in exchanging IWXXM data between the United States National Weather Service and the Federal Aviation Administration through the Aeronautical Message Handling System (AMHS). The meeting noted that work was underway to establish the necessary arrangements to support international dissemination of IWXXM information and that the United States expected to achieve compliance with the IWXXM exchange requirement by the end of 2026. The meeting also noted that the United States was investigating the causes of low performance indices identified during the OPMET monitoring and was coordinating with the relevant centres to address routing issues affecting METAR and TAF exchange.

3.20. The meeting discussed the implications of Amendment 82 to ICAO Annex 3, which separated operational requirements from detailed implementation provisions and relocated certain material related to IWXXM to the Procedures for Air Navigation Services — Meteorology (PANS-MET). The meeting noted concerns that the provision of MET information in IWXXM form was no longer explicitly specified in either ICAO Annex 3 or the APAC ANP in a manner that clearly supported the identification of potential deficiencies under the APANPIRG deficiency management process. The meeting further noted that this could affect the assessment of potential deficiencies related to the lack of IWXXM implementation.

3.21. The meeting agreed that clarification of the regional planning provisions relating to the exchange of meteorological information in IWXXM form would be beneficial, particularly in view of future plans for the cessation of international TAC exchange. The meeting therefore agreed that Australia would prepare a flimsy paper (Ref: FL/04) proposing an appropriate mechanism for APANPIRG to request ICAO to amend the APAC ANP to explicitly reflect the requirement for the provision of relevant MET information in IWXXM form. The meeting agreed that the proposal would be further considered before finalisation of the report and any associated Draft Conclusion for APANPIRG consideration.

WP/24 Investigation into Australian OPMET Results – Australia

3.22. The meeting reviewed the results of Australia's investigation into the outcomes of the 2025 ICAO APAC Regional SIGMET Test and the 2025 TAF and METAR APAC Performance Indices. The meeting noted that Australia had been identified in previous monitoring activities as not having issued a test Tropical Cyclone Advisory (TCA) during the SIGMET test and as having performance indices below the 95 per cent threshold for some aerodromes.

3.23. The meeting noted that Australia's inability to distribute the test TCA during the SIGMET test was the result of an issue affecting distribution of the test message and did not affect operational TCA capability. The meeting further noted that Australia issued three test TCAs on 1 July 2026 and that RODBs Brisbane, Bangkok and Singapore confirmed receipt of those messages in both TAC and IWXXM formats, demonstrating both operational and test capability.

3.24. The meeting noted Australia's analysis of the performance indices for Tindal and Lord Howe Island aerodromes. The meeting noted that the lower performance indices for Tindal were associated with Defence operational arrangements and the way routine TAF issuance times were represented in the ROBEX Handbook. Tindal TAF services included additional three-hourly forecasts that were not always required by Defence users and were therefore not routinely issued. The meeting further noted that, at Lord Howe Island, Australia's operational practices include issuing amended TAFs in place of some routine TAFs and issuing SPECI reports instead of METARs under certain

circumstances, and that these practices are implemented to enhance aviation safety and service quality.

3.25. The meeting noted that Australia's review demonstrated that, during November 2025, substantially more MET reports and forecasts were issued at Lord Howe Island than would have been expected under the routine schedule due to the use of amended TAFs and SPECI reports. The meeting further noted that Australia's review identified opportunities to improve bulletin construction by ROC Brisbane that could improve future performance index results. Australia considered that the lower performance indices primarily resulted from registered differences and established safety-focused operational practices rather than deficiencies in the provision of METAR and TAF services.

3.26. In discussion, the meeting recalled that the outcomes of SIGMET tests and APAC Performance Indices are used as indicators of potential deficiencies and that the agreed process requires ICAO to validate any potential deficiency with the State concerned before further action is taken. The Secretariat noted that Australia's paper formed part of that validation process and that Australia had investigated the identified issues and provided supporting evidence demonstrating that the lower performance indices primarily resulted from registered differences and established safety-focused operational practices rather than actual deficiencies in the provision of METAR and TAF services. The Secretariat therefore supported the proposal to remove Australia from the list of potential deficiencies, noting that there was no other evidence indicating the existence of a deficiency.

3.27. The meeting also noted that registered differences and deficiencies are separate considerations and that the availability of MET information for the required periods had been maintained. Based on the information provided and the Secretariat's assessment, the meeting agreed to amend Conclusion MET SG/30-05 – Potential Deficiencies in Provision of METAR and/or TAF, by removing Australia from the list of States recommended for further review by the ICAO APAC Regional Office.

WP/25 Improvement in IWXXM Translation for Philippine Aerodromes – Hong Kong, China

3.28. The meeting reviewed information provided by Hong Kong, China on the resolution of a temporary TAC-to-IWXXM translation issue that affected METAR timeliness for ten Philippine aerodromes included in Hong Kong OPMET bulletins during November 2025. The meeting noted that ROC Hong Kong is responsible for the collection and dissemination of OPMET bulletins for Philippine aerodromes under the Regional OPMET Bulletins Exchange (ROBEX) Scheme and provides TAC-to-IWXXM translation services based on a bilateral agreement.

3.29. The meeting noted that OPMET Performance Indices monitoring conducted in November 2025 identified lower timeliness for IWXXM METARs for ten Philippine aerodromes, while IWXXM METAR availability remained above 95 per cent and both availability and timeliness of IWXXM TAFs exceeded the 95 per cent threshold.

3.30. The meeting noted that a technical investigation by Hong Kong, China determined that the reduced IWXXM METAR timeliness resulted from a temporary interruption in TAC-to-IWXXM translation services on 8 November 2025, which delayed dissemination of some IWXXM METARs. The meeting further noted that targeted system changes and software optimisations had been implemented to prevent recurrence and improve the resilience of the translation process.

3.31. The meeting noted that analysis of reception logs from RODB Bangkok and RODB Singapore for the period 1 to 31 May 2026 confirmed that the timeliness of IWXXM METARs for all ten Philippine aerodromes exceeded the 0.95 threshold. The meeting further noted that, based on the successful resolution of the translation service issue and verification of compliant performance for all ten aerodromes, the issue identified during the November 2025 monitoring period had been fully resolved. The meeting welcomed the cooperation between Hong Kong, China, Thailand and Singapore

in supporting the verification process and noted this information had already been provided to the ad hoc group on deficiencies during their review, and so Philippines had not been included in the list of States with potential deficiencies.

WP/31 Investigation into Singapore OPMET Results – Singapore

3.32. The meeting reviewed the findings of Singapore's investigation into its OPMET monitoring results, following analysis by the MET Deficiencies ad hoc group that identified potential deficiencies associated with IWXXM data not meeting the 95 per cent availability and/or timeliness threshold in the 2025 APAC Performance Indices. The meeting noted that the investigation focused on IWXXM METAR availability and timeliness for the Singapore aerodromes Paya Lebar (WSAP) and Seletar (WSSL).

3.33. The meeting noted that the 2025 APAC Performance Indices indicated availability and timeliness issues associated with IWXXM bulletin LAMS38 for the two aerodromes. The meeting further noted that Singapore's investigation determined that bulletin LAMS38 was not being routed from ROC Kuala Lumpur to RODB Tokyo, resulting in reduced availability results. ROC Kuala Lumpur subsequently rectified the issue, and RODB Tokyo confirmed successful reception of the bulletin from the beginning of July 2026.

3.34. The meeting noted that Singapore had verified that reports from WSAP and WSSL were disseminated within five minutes of the observation time in almost all cases. The meeting further noted Singapore's view that the reported timeliness results were likely associated with routing issues rather than delays in report dissemination.

3.35. The meeting noted the cooperation of ROC Kuala Lumpur, RODB Tokyo and RODB Bangkok in monitoring and verifying reception of bulletin LAMS38. The meeting further noted that the information provided demonstrated successful resolution of the availability issue and supported ongoing investigation of the reported timeliness results.

3.36. In discussion, Singapore clarified that the paper was intended to support removal of Singapore from the list of potential deficiencies. Singapore advised that its investigation had confirmed dissemination of IWXXM METAR reports within the required timeframes and that the issues identified through monitoring did not indicate a deficiency in the provision of MET information. The meeting noted that the monitoring process is intended to identify potential deficiencies for subsequent validation by States.

3.37. Consistent with the approach applied to previous papers, the Secretariat considered that Singapore had investigated and validated the monitoring results and had demonstrated that the issues identified did not represent an actual deficiency in the provision of METAR services. The Secretariat therefore supported removal of Singapore from the list of potential deficiencies and advised that no further ICAO investigation would be required unless additional information became available.

3.38. Based on the information provided and the Secretariat's assessment, the meeting agreed to amend Conclusion MET SG/30-05 – Potential Deficiencies in Provision of METAR and/or TAF, by removing Singapore from the list of States recommended for further review by the ICAO APAC Regional Office.

WP/23 Suggestions on the Issuance Time of Aerodrome Forecasts – China

3.39. The meeting reviewed information provided by China on the issuance time of aerodrome forecasts (TAF), including the current development of civil aviation in China, operational requirements associated with aeronautical meteorological services, and the provisions established by

the Civil Aviation Administration of China governing the issuance and exchange of flight meteorological information. The meeting noted that China applies a forecast strategy combining short-term forecasting and nowcasting and provides aerodrome forecasts, landing forecasts, SIGMET information and customized meteorological services.

3.40. The meeting noted that aerodrome forecasts at Chinese international and regional aerodromes are issued every six hours with validity periods of 24 or 30 hours, while landing forecasts, SIGMET information and customized services provide additional support through higher update frequencies, operational flexibility and continuous monitoring and amendment of meteorological information.

3.41. The meeting noted China's view that the timing of aerodrome forecast issuance should take account of operational requirements associated with air traffic management coordination, airline dispatch decision-making and meteorological forecast revision. The meeting further noted that, according to the paper, a forecast lead time of two to three hours provides sufficient time for air traffic management measures, flight planning and dispatch activities, while maintaining an appropriate balance between operational applicability and forecast accuracy.

3.42. The meeting noted information presented by China on forecast quality assessment results for selected domestic and international aerodromes. The meeting agreed that the information presented in WP/23, paragraph 2.4 and Table 1 should be validated with the States concerned and that the methodology used should be clearly documented and explained to ensure transparency.

3.43. The meeting discussed alternative approaches used by other States to address operational requirements similar to those described by China. The meeting noted information from the United States regarding the use of scheduled TAF updates and amendments to provide more recent forecast information to users, and information from Australia regarding the use of more frequent TAF issuance at some aerodromes to meet operational needs. The meeting also noted information on ongoing ICAO METP work related to future aerodrome meteorological forecast information services.

3.44. The Secretariat noted that Annex 3 currently contains provisions governing the issuance time of TAF and that any amendment to those provisions would require consideration through the ICAO global SARPs amendment process rather than through the MET SG. The Secretariat further noted that existing ICAO provisions already include complementary products and services that may assist in addressing operational requirements. The Chair concluded that the paper highlighted the need to balance local operational requirements with international harmonization and noted that future developments should be considered through the appropriate ICAO global processes.

3.45. The meeting agreed that performance information presented within the MET SG framework should be based on an agreed methodology and, where information relating to another State is included, should be validated with the State concerned or otherwise supported by a transparent and agreed assessment approach. The meeting therefore adopted the following Decision:

Decision MET SG/30-06 — Reporting of Performance Information in MET SG Papers	
What: That performance information presented to the MET SG relating to the performance of States, aerodromes or meteorological services shall be based on a methodology agreed by the relevant APAC MET forum or, where such information relates to another State, be validated with the State concerned and supported by a transparent description of the methodology used.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical

MET SG/30
Report on Agenda Items

Why: To ensure consistency, transparency and appropriate coordination when presenting performance information, and to avoid misunderstandings arising from the use of differing or non-validated assessment methodologies.	Follow-up: ☐ Required from States
When: With immediate effect	Status: Adopted by MET SG/30
Who: ☐ Sub Groups ☐ RASG-APAC ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

4. Regional Guidance Material

WP/13 Updates to APAC Regional SIGMET Guide – Ad Hoc Group

4.1. The meeting reviewed proposed updates to the APAC Regional SIGMET Guide developed by the MET SG ad hoc group on the APAC Regional SIGMET Guide. The meeting noted that the Guide is maintained by the ICAO APAC Regional Office to support the standardization and harmonization of SIGMET procedures and formats and to maintain alignment with relevant ICAO SARPs, regional air navigation procedures and guidance material.

4.2. The meeting noted that the ad hoc group had developed additional guidance on the issuance of volcanic ash (VA) SIGMETs when a Volcanic Ash Advisory contains the phrase “VA NOT IDENTIFIABLE FM SATELLITE”. The meeting further noted the scenarios under which this phrase may be used by Volcanic Ash Advisory Centres (VAACs) and the associated guidance developed for meteorological watch offices (MWOs), including a proposed SIGMET example for inclusion in the next edition of the Guide.

4.3. The meeting noted an editorial correction to Appendix D of the Guide, whereby the ICAO location indicator for Papua New Guinea was corrected from “AYPY” to “AYPM”. The meeting further noted that the correction had been incorporated into the proposed Thirteenth Edition of the APAC Regional SIGMET Guide attached to the paper.

4.4. The meeting noted FL/03 from VAAC Wellington, supported through coordination with the APAC VAACs, proposing further refinement of the guidance and examples relating to the use of the phrase “VA NOT IDENTIFIABLE FM SATELLITE” to provide clearer guidance for MWOs and reflect additional operational scenarios.

4.5. In discussion, the meeting noted the importance of maintaining consistency between regional SIGMET guidance and global ICAO guidance. The Chair clarified that the relevant global guidance is contained in the Handbook on the International Airways Volcano Watch (IAVW) and noted that the proposed regional guidance was intended to provide additional examples and practical guidance consistent with that material. The meeting also discussed the importance of sharing significant updates to regional SIGMET guidance with other ICAO regions to support harmonization of SIGMET practices.

4.6. The meeting adopted the following Decision, endorsing the updated APAC Regional SIGMET Guide (Thirteenth Edition) as regional guidance material, subject to incorporation of the refinements proposed by the APAC VAACs (under FL/03) before final publication:

Decision MET SG/30-07 — Updates to Regional SIGMET Guide

MET SG/30
Report on Agenda Items

What: That ICAO adopt the updated APAC Regional SIGMET Guide (Thirteenth Edition), as proposed in WP/13, as regional guidance material, subject to incorporation of the amendments proposed by the APAC VAACs in FL/03 and agreed editorial refinements before final publication.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To update the APAC Regional SIGMET Guide, including guidance and examples relating to the issuance of volcanic ash (VA) SIGMETs when a Volcanic Ash Advisory contains the phrase “VA NOT IDENTIFIABLE FM SATELLITE”, and to incorporate the amendments endorsed by the meeting.	Follow-up: ☒ Required from ICAO APAC RO
When: With immediate effect	Status: Adopted by MET SG/30
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☒ Other: APAC VAACs	

4.7. The meeting requested the Secretariat to publish the Thirteenth Edition of the APAC Regional SIGMET Guide on the ICAO APAC website and notify States of its availability. The meeting further requested the Secretariat to distribute the adopted amendments and the updated APAC Regional SIGMET Guide to other ICAO Regional Offices to support inter-regional awareness and coordination of SIGMET guidance developments. **[Action Item MET SG/30-04]**

WP/14 Updates to APAC Regional Guidance for Tailored Meteorological Information and Services – Ad Hoc Group

4.8. The meeting reviewed proposed updates to the APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations. The meeting noted that the proposed updates were developed by the MET/R WG ad hoc group to enhance guidance related to the verification and evaluation of impact-based meteorological information used to support ATM decision-making. The meeting further noted that the guidance is intended to support States in the implementation, enhancement and continuous improvement of meteorological information and services for ATM operations.

4.9. The meeting noted that the proposed updates were developed in response to previous MET SG and MET/R WG decisions and were based on information and experiences shared by China, Japan, Singapore and Hong Kong, China relating to verification practices, operational challenges, probabilistic forecasting and evaluation of impact-based meteorological information supporting ATM operations. The meeting further noted that the ad hoc group analysed these inputs and incorporated relevant guidance into the draft document.

4.10. The meeting noted that the proposed amendments included new material under the section on continuous improvement of meteorological information and services, covering verification methods and the identification of the true value of meteorological impacts on ATM operations. The meeting further noted that the updated guidance describes verification through case studies and statistical methods, discusses challenges associated with identifying operational impacts attributable to meteorological conditions, and provides approaches to improve the reliability of verification activities.

4.11. The meeting noted that MET/R WG/15 reviewed the draft updates and supported preparation of a final version for approval by MET SG/30 following further review by the MET/R WG and the ATFM & A-CDM/SG. The meeting also noted the inclusion of a new implementation example

from Thailand describing collaborative activities between the Thailand Meteorological Department and AEROTHAI to provide tailored meteorological information in support of ATM operations using existing tools and resources.

4.12. The meeting adopted the following Decision, approving the proposed updates to the APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations:

Decision MET SG/30-08 — Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations	
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</i> .	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To provide States with additional guidance related to verification and evaluation and more implementation examples in the guidance material and make the updated version available on the ICAO APAC eDocuments website.	Follow-up: ☐ Required from States
When: As soon as practicable	Status: Adopted by Subgroup
Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

4.13. The meeting also requested the Secretariat to publish the updated APAC Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations on the APAC eDocuments website. **[Action Item MET SG/30-05]**

WP/29 Inconsistencies in TC SIGMET Future Position in PANS-MET – New Zealand

4.14. The meeting reviewed information provided by New Zealand concerning inconsistencies in the Procedures for Air Navigation Services – Meteorology (PANS-MET, Doc 10157) regarding the description of future tropical cyclone positions in SIGMET messages. The meeting noted that Amendment 82 to Annex 3 and the associated PANS-MET introduced changes to the tropical cyclone SIGMET example that have resulted in uncertainty regarding how forecast tropical cyclone positions should be described in TC SIGMETs.

4.15. The meeting noted that the revised PANS-MET tropical cyclone SIGMET example includes both movement and a forecast tropical cyclone position, while Note 26 to Table A7-5 of the PANS-MET states that the elements “forecast time” and “forecast position” are not to be used in conjunction with the element “movement or expected movement”. The meeting further noted that the movement included in a TC SIGMET refers only to the movement of the tropical cyclone centre and not the associated cumulonimbus cloud area.

4.16. The meeting noted that the simultaneous inclusion of movement and forecast position in a TC SIGMET could create ambiguity. The meeting further noted the paper’s suggestion that MWOs could issue separate SIGMETs for the tropical cyclone centre and the associated cumulonimbus clouds where this would better describe the forecast situation, particularly when the cloud area and tropical cyclone centre move differently.

4.17. The meeting noted that the tropical cyclone SIGMET examples contained in the APAC Regional SIGMET Guide are consistent with Note 26 to Table A7-5 and use either movement or

forecast position for the tropical cyclone centre. During discussion, the meeting agreed that additional guidance and examples may be beneficial to assist MWOs in determining when movement or forecast position may be most appropriate and when separate SIGMETs could provide a clearer description of the tropical cyclone related hazards.

4.18. The meeting supported further consideration of the issue by the ad hoc group on the APAC Regional SIGMET Guide. The meeting noted support from Australia for both additional guidance and referral of the matter to the ICAO MP, and noted the willingness of the ad hoc group to examine the issue and develop further guidance, as appropriate.

4.19. The meeting further agreed that the inconsistency identified between the PANS-MET tropical cyclone SIGMET example and Note 26 to Table A7-5 should be brought to the attention of the ICAO MP by the New Zealand METP member for further consideration. The meeting noted that any outcome from the METP would be communicated to the MET SG through the APAC Regional SIGMET Guide activities. **[Action Item MET SG/30-06]**

4.20. The meeting agreed to task the ad hoc group on the APAC Regional SIGMET Guide to assess the benefits and limitations of using tropical cyclone movement or forecast position in TC SIGMETs, including consideration of the use of separate SIGMETs for cumulonimbus clouds associated with tropical cyclones, and to develop additional guidance for consideration at the next meeting. **[Action Item MET SG/30-07]**

WP/09 ROBEX Handbook Updates – Secretariat

4.21. The meeting reviewed proposed amendments for incorporation into the Twentieth Edition (July 2026) of the APAC ROBEX Handbook. The meeting noted that the amendments originated from MET/IE WG actions, State-notified updates, and editorial corrections, and were intended to improve the accuracy of ROBEX documentation and support the effective implementation of the APAC OPMET exchange system. The meeting further noted that additional ROBEX Handbook amendment proposals submitted under Agenda Item 4 would be considered separately and, if endorsed, incorporated into the same edition of the Handbook.

4.22. The meeting noted proposed updates to METAR and TAF bulletins, including revisions to selected South Pacific bulletin schedules and availability times, reallocation of Niue and Tonga aerodromes to newly established bulletins, reallocation of Singapore aerodromes WSSL and WSAP to a different METAR bulletin, addition of NZOH aerodrome information to New Zealand bulletins, updates to Thailand bulletin availability times, updates to Indonesian TAF validity periods and dissemination information, and editorial corrections. The meeting further noted that these amendments would ensure the Handbook reflects current operational practices.

4.23. The meeting noted proposed amendments to OPMET monitoring guidance arising from MET/IE WG outcomes. The amendments clarified the use of the latest ROBEX monitoring data provided by the Secretariat, improved descriptions of OPMET performance monitoring procedures, and updated performance-index specifications, including the removal of obsolete references, with the aim of promoting consistent monitoring practices and improving interpretation of OPMET performance results across the Region. The meeting noted that a subsequent paper (WP/26) under Agenda Item 4 would contain additional proposals relating to performance-index guidance for further consideration.

4.24. The meeting noted proposed updates to ROBEX Focal Point information, including clarification of the role and purpose of ROBEX Focal Points and updates to focal point information for Hong Kong China, Fiji, Indonesia and Thailand. The meeting further noted that maintaining current focal point information supports timely coordination and effective resolution of ROBEX operational issues.

4.25. During discussion, the meeting noted the importance of transparency in tracking ROBEX Handbook amendments arising from MET SG and MET/IE WG actions. The meeting noted that the paper identified amendments proposed for inclusion in the current edition of the Handbook but did not indicate whether any outstanding action items relating to ROBEX Handbook updates remained unaddressed. The meeting agreed that future ROBEX Handbook update papers should, where practicable, provide greater visibility of the status of relevant actions and proposals.

4.26. The meeting adopted the following Decision which endorsed the amendments contained in Appendices A to D of WP/09 for incorporation into the Twentieth Edition (July 2026) of the APAC ROBEX Handbook, subject to editorial corrections identified during the meeting and any further amendments arising from subsequent papers considered under Agenda Item 4. The meeting requested the Secretariat to update and publish the revised edition. **[Action Item MET SG/30-08]**

Decision MET SG/30-09 — Updates to the APAC ROBEX Handbook	
What: That the amendments contained in Appendices A to D of WP/09 be endorsed for incorporation into the Twentieth Edition (July 2026) of the APAC ROBEX Handbook, subject to editorial corrections identified during the meeting and any further amendments arising from subsequent papers considered under Agenda Item 4, and that the Secretariat update and publish the revised Handbook.	Expected impact: ☐ Political / Global ☐ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To ensure that the APAC ROBEX Handbook remains accurate, current and aligned with regional operational requirements through the incorporation of MET/IE WG actions, State-notified updates, performance-monitoring guidance updates, focal point information changes, and agreed editorial corrections.	Follow-up: ☐ Required from States
When:	Status: Adopted by MET SG/30
Who: ☐ Sub Groups ☐ RASG-APAC ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

4.27. The meeting also agreed to consider any additional ROBEX Handbook amendments submitted by States under Agenda Item 4 for incorporation into the Twentieth Edition of the Handbook.

WP/26 Updates to the ROBEX Handbook – MET/IE WG Chairs

4.28. The meeting reviewed proposed updates to the APAC ROBEX Handbook developed by the MET/IE WG to improve OPMET performance indices and support more resilient OPMET exchange arrangements. The meeting noted that the proposals originated from discussions within the MET/IE WG regarding OPMET monitoring procedures and contingency communication arrangements within the APAC ROBEX Scheme.

4.29. The meeting noted the review of METAR timeliness performance indices, including clarification obtained from experts in the EUR Region regarding the application of METAR timeliness thresholds. The meeting further noted that the EUR Region no longer uses the six-minute criterion and applies a threshold of up to ten minutes after the observation time, while the current APAC methodology allows reports to be received from five minutes before until ten minutes after the observation time. The meeting also noted the view that there is no operational justification for permitting early receipt of METAR reports in the timeliness calculation and that Thailand, as the provider of APAC performance-index calculations, supported alignment with the EUR approach.

4.30. The meeting noted proposed amendments to clarify the treatment of corrected (COR) METAR bulletins in the calculation of METAR performance indices. The meeting further noted that the existing ROBEX Handbook text contains ambiguity regarding whether corrected bulletins are included or excluded from timeliness calculations and that the proposed amendment would clarify that COR bulletins are excluded from the calculation.

4.31. The meeting reviewed proposed amendments to the ROBEX Handbook concerning alternate communication paths and the management of operational bulletin changes. The meeting noted that the proposed text would clarify the distinction between structural changes to the ROBEX scheme and operational bulletin changes and would provide guidance on the coordination and implementation of such changes by NOCs, ROCs and the ICAO APAC Office.

4.32. The meeting agreed that the proposed amendments relating to METAR performance indices, treatment of corrected METAR bulletins, and procedures for alternate communication paths and operational bulletin changes should be incorporated into the package of amendments to the APAC ROBEX Handbook (Twentieth Edition) being considered under Decision MET SG/30-09 on updates to the APAC ROBEX Handbook. The meeting further agreed that the METAR timeliness performance-index amendments contained in this paper would supersede and replace the corresponding proposed changes contained in Appendix C of WP/09. **[Action Item MET SG/30-08]**

WP/12 Online Digital METAR/TAF Tables of ROBEX Handbook – Hong Kong, China

4.33. The meeting reviewed a proposal by Hong Kong, China to develop an online spreadsheet hosting a digital version of the METAR and TAF bulletin tables contained in Appendices A and B of the APAC ROBEX Handbook. The meeting noted that the proposal was intended to facilitate timely sharing of updates submitted by States and Administrations that may not yet be reflected in the formally published ROBEX Handbook.

4.34. The meeting noted that a trial version of the online METAR/TAF tables had been developed and presented to MET/IE WG/24, which expressed general support and requested further development of the concept in coordination with the Secretariat, including change-management considerations. The meeting further noted proposals concerning hosting arrangements, maintenance responsibilities, and the designation of volunteer points of contact to assist the Secretariat in updating the online tables.

4.35. The meeting reviewed the proposed procedures for managing changes and versions of the online tables. The meeting noted that the proposal included updating the online tables to reflect operational bulletin changes submitted by ROCs, tracking changes through a colour-coded system, maintaining consistency with published editions of the ROBEX Handbook, and ensuring that only operationally implemented changes are reflected in the online tables.

4.36. The meeting noted the proposal to maintain both PDF and digital versions of the METAR/TAF tables in parallel during a trial period before considering replacement of the static tables in the PDF version of the ROBEX Handbook with a direct link to the digital tables. During the discussion, the meeting considered arrangements for managing and maintaining the online tables, including a trial approach under which ICAO would remain the custodian of the information while a limited number of designated external experts could assist in drafting and updating table changes, subject to Secretariat verification and publication. The meeting noted that the trial would also help assess technical, access-control and governance considerations before wider implementation.

4.37. The meeting adopted the following Decision supporting the development and trial implementation of online digital METAR/TAF bulletin tables associated with the APAC ROBEX Handbook, including the proposed change-management arrangements and coordination with the

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Secretariat on hosting, maintenance and editorial arrangements:

Decision MET SG/30-10 — Trial Implementation of Online Digital METAR/TAF Tables	
What: That the MET SG support the development and trial implementation of online digital METAR/TAF bulletin tables associated with the APAC ROBEX Handbook, including the proposed change-management processes and arrangements for maintenance by the ICAO Secretariat with assistance from a limited number of designated expert editors.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To provide more timely access to operational METAR/TAF bulletin table updates, improve management of changes between ROBEX Handbook editions, and evaluate the practicality and governance arrangements of a digital solution before any transition from the existing static tables. The trial will also assess arrangements involving both ICAO and a small number of external expert editors supporting the maintenance process.	Follow-up: ☒ Required from States
When: During the intersessional period following MET SG/30.	Status: Adopted by MET SG/30
Who: ☒ Subgroups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☒ Other: MET/IE WG experts	

4.38. The meeting noted that the proposed online tables would provide timely access to operational bulletin updates not yet reflected in published editions of the ROBEX Handbook and support more efficient maintenance and communication of METAR and TAF bulletin information.

4.39. The meeting further agreed on an action for the ICAO Secretariat to establish and implement the trial arrangements, including provision of appropriate access for a small number of expert editors and publication arrangements for the online tables. The meeting agreed that the outcomes of the trial should be reviewed before any transition from the existing static tables in the ROBEX Handbook to a fully digital version of the METAR/TAF bulletin tables. **[Action Item MET SG/30-09]**

WP/10 Updates to the ROBEX Handbook – Japan

4.40. The meeting reviewed updates proposed by Japan to the APAC ROBEX Handbook arising from changes in the operational provision of aerodrome meteorological information in Japan. The meeting noted that the proposed amendments related to the METAR and TAF bulletin tables contained in Appendices A and B of the ROBEX Handbook.

4.41. The meeting noted that METAR and TAF reports for Tokushima Airport (RJOS) had been included in bulletins SAJP38 RJTD and FTJP38 RJTD since 19 February 2026. The meeting further noted that METAR and SPECI reports have been issued on a 24-hour basis for Saga (RJFS), Sendai (RJSS), Shizuoka (RJNS), Takamatsu (RJOT) and Matsuyama (RJOM) airports since March 2026.

4.42. The meeting reviewed the proposed amendments to Tables A and B of the ROBEX Handbook contained in WP/10, Attachment 1, which were intended to reflect the operational changes implemented in Japan.

4.43. The meeting agreed that the proposed amendments provided by Japan should be incorporated into the package of amendments to the APAC ROBEX Handbook (Twentieth Edition) being considered under Decision MET SG/30-09 on updates to the APAC ROBEX Handbook. The meeting agreed to this action, noting that the amendments were necessary to ensure that the ROBEX

Handbook accurately reflects current operational arrangements for the provision and exchange of aerodrome meteorological information in Japan. **[Action Item MET SG/30-08]**

WP/11 Updates to the ROBEX Handbook & ANP – Australia

4.44. The meeting reviewed information provided by Australia on proposed updates to the APAC ROBEX Handbook and the APAC ANP to align with Australia's aerodrome meteorological services. The meeting noted that Australia was opening a new aerodrome, Sydney/Nancy-Bird Walton (YSWS), on 9 July 2026 and had submitted a Proposal for Amendment to include the aerodrome in the relevant ANP tables, including Table MET II-2.

4.45. The meeting noted Australia's proposal to update the ROBEX Handbook to reflect the inclusion of additional aerodromes in international OPMET bulletins, namely Ayers Rock/Connellan (YAYE), Mackay (YBMK), Ballina/Byron Gateway (YBNA), Proserpine/Whitsunday Coast (YBPN), Esperance (YESP), Hervey Bay (YHBA), Kingscote/Kangaroo Island (YKSC), Mildura (YMIA), Newman (YNWN), Karratha (YPKA) and Sydney/Nancy-Bird Walton (YSWS). The meeting further noted that these changes were scheduled for implementation on the 9 July 2026 AIRAC date.

4.46. The meeting noted that some Australian Defence aerodromes operate three-hourly aerodrome forecast services (TAF3) during periods aligned with local Defence requirements rather than on a routine 24-hour basis. The meeting further noted Australia's proposal that the ROBEX Handbook should represent the routine TAF service at those aerodromes and not include the TAF3 service hours, following issues identified through OPMET Performance Indices monitoring.

4.47. The meeting agreed that the proposed ROBEX Handbook amendments should be incorporated into the package of amendments to the APAC ROBEX Handbook (Twentieth Edition) being considered under Decision MET SG/30-09 on updates to the APAC ROBEX Handbook. **[Action Item MET SG/30-08]**

FL/01 Updates to ROBEX Handbook and Air Navigation Plan (ANP) – Viet Nam

4.48. The meeting reviewed a paper presented by Viet Nam proposing updates to the APAC ROBEX Handbook and the APAC ANP Volume II following the inclusion of Lien Khuong Airport (VVDL) and Long Thanh International Airport (VVLN) in the regional OPMET exchange network. The meeting noted that VVDL had been upgraded to international airport status in 2024 and that routine METAR and TAF services were already being provided, while VVLN was scheduled to commence commercial operations in December 2026 with 24-hour METAR/SPECI and TAF services to support international operations.

4.49. The meeting noted the proposal to include VVDL and VVLN in METAR bulletin SAAE34 and TAF bulletin FTAE34 under ROC Bangkok to support the timely regional dissemination of OPMET information. The meeting further noted the associated proposal to update APAC ANP Volume II, Table MET II-2 (Aerodrome Meteorological Offices), to include both aerodromes.

4.50. The meeting reviewed the proposed amendments to Tables A and B of the APAC ROBEX Handbook to reflect the addition of VVDL and VVLN and noted that the amendments would ensure that regional guidance material and OPMET exchange arrangements remain aligned with current and planned meteorological service provisions in Viet Nam. During discussion, the Chair reminded the meeting that amendments to the APAC ANP are processed through the established Proposal for Amendment process, whereby States submit proposals directly to ICAO. The meeting also noted that any METNO notification associated with the operational implementation of the changes should be coordinated through ROC Bangkok in accordance with established ROBEX procedures.

4.51. The meeting agreed that the proposed amendments to the APAC ROBEX Handbook should be incorporated under Decision MET SG/30-09 – Updates to the APAC ROBEX Handbook. **[Action Item MET SG/30-08]**

4.52. The meeting further noted that Viet Nam would liaise with the ICAO APAC Office regarding submission of the necessary Proposal for Amendment to update APAC ANP Volume II, Table MET II-2, and with ROC Bangkok regarding issuance of the corresponding METNO notification.

FL/02 Provision of three-hourly TAF for three Major International Airports in Viet Nam – Viet Nam

4.53. The meeting noted FL/02 in which Viet Nam informed the meeting that it has increased the frequency of issuing TAF for the three major international airports (VVNB, VVDN and VVTS) from once every six hours to once every three hours since June 2026.

IP/15 Update MET-SWIM Documentation – Australia

4.54. The meeting reviewed a paper presented by Australia providing an update on guidance material supporting the implementation of meteorological aspects of SWIM. The meeting noted that ICAO Annex 3 now includes a Recommended Practice encouraging States to provide meteorological information through information services and that the ICAO METP Working Group on MET Information Exchange (WG-MIE) has been progressing guidance material to support implementation of MET information services.

4.55. The meeting noted that the former MET-SWIM Plan had been deprecated and removed from the ICAO APAC e-documents portal, with its content incorporated into a new Guidelines for MET-SWIM Implementation document developed by WG-MIE. The meeting further noted that the first edition of the guidelines had been endorsed by METP/6 as an informal guidance document and published on the ICAO APAC e-documents portal to assist information service providers and users with implementing SWIM-enabled meteorological information services.

4.56. The meeting also noted the publication of Version 3 of the MET-SWIM Roadmap, which reflects recent developments in MET information services and updated expectations for future implementation. Key updates include the progression from exchange of TAC and IWXXM formats, through implementation of information services, to the planned cessation of the international exchange of TAC and the eventual use of information services as the primary mechanism for MET information exchange. The roadmap also includes updated guidance on modernization of MET exchange and the transition to SWIM-enabled capabilities.

4.57. During discussion, the meeting noted the distinction between the proposed removal of the ICAO requirement for international TAC exchange from 2030 and the continued ability of States to generate or use TAC products to meet national or local operational requirements. The meeting noted that, while current ICAO planning envisages IWXXM becoming the primary format exchanged internationally, States may continue to produce TAC where required for domestic purposes.

4.58. The meeting noted the information provided in the paper and encouraged States to review the updated MET-SWIM guidance material and roadmap in support of future SWIM implementation activities.

5. Planning and Monitoring

WP/15 Review of the APAC ANP – Secretariat

5.1. The meeting reviewed a paper presented by the Secretariat providing an update on recent amendments to the meteorology (MET) provisions of the APAC Air Navigation Plan (ANP) Volumes I and II and reviewing previous APANPIRG, MET SG and MET/R WG activities relating to APAC ANP Volume III. The meeting noted that the APAC ANP comprises three volumes covering stable plan elements, dynamic plan elements, and implementation and modernization planning elements associated with the ICAO Aviation System Block Upgrades (ASBUs) and Global Air Navigation Plan (GANP).

5.2. The meeting noted that, in response to actions from MET SG, the former MET/S WG and MET/IE WG, the ICAO APAC Office had processed proposals for amendment to the MET provisions of APAC ANP Volumes I and II. The approved amendments included updates to State volcano observatories, MWO responsibilities, Aerodrome Meteorological Office responsibilities, VOLMET broadcast requirements, and removal of obsolete references to the SADIS 2G satellite broadcast. The meeting further noted that these amendments had been incorporated into the consolidated versions of APAC ANP Volumes I and II available on the ICAO APAC Office website.

5.3. The meeting reviewed the background to APAC ANP Volume III and noted previous discussions within MET SG, MET/R WG and APANPIRG concerning the development of MET-related content and implementation planning guidance. The meeting further noted that APANPIRG/36 had considered action plans for updating APAC ANP Volume III and that related proposals would be considered under subsequent working papers (WP/16 and WP/30) presented to the meeting.

5.4. During discussion, the Chair welcomed the completion of the recent amendments to APAC ANP Volumes I and II and noted the availability of guidance material describing the Proposal for Amendment (PfA) process for updating technical elements of the ANP. The meeting noted that future consideration of APAC ANP-related work would focus primarily on the content, structure and planning elements of the ANP, taking into account discussions under subsequent agenda items.

5.5. The meeting noted the information provided and agreed to consider whether any further work was required regarding MET-related content in APAC ANP Volumes I, II and III in light of discussions under subsequent working papers addressing ANP improvements and the update of APAC ANP Volume III.

WP/16 Proposed Improvements to the APAC ANP MET Information – New Zealand

5.6. The meeting reviewed proposals by New Zealand to improve meteorological information contained in the APAC ANP. The meeting noted that the proposals were intended to better reflect Annex 3 requirements and the status of implementation of VAAC and State volcano observatory (SVO) services. The meeting further noted the ongoing regional work related to updating APAC ANP Volume III.

5.7. The meeting noted that APAC ANP Volume II Table MET II-2 includes a requirement for information on the state of the runway, which is no longer included as an optional element in the METAR template contained in PANS-MET. The meeting further noted proposals to remove the state of the runway column and the duplicate “use” column, and to include new information on the provision of wind shear warnings and aerodrome warnings to support awareness and monitoring of implementation of these services in the APAC Region. During discussion, New Zealand clarified that a draft amendment shown in WP/16, Appendix A incorrectly indicated removal of the requirement for maximum and minimum temperature information in TAF. The meeting noted that this was an editorial error and that the provision remained an allowable optional element and was not intended to be deleted.

5.8. The meeting reviewed proposals concerning volcanic hazard information services. The meeting noted that APAC ANP Volume I currently refers to implementation information for VAACs

and SVOs being contained in Volume III, although this is not the case. The meeting further noted proposals to update the reference for VAAC service implementation information to the *Handbook on the International Airways Volcano Watch* (Doc 9766), and to relocate information on designated SVOs and VONA implementation from Volume I to Volume II in a new Table MET II-4, reflecting the dynamic nature of this information.

5.9. During discussion, the meeting noted that some of the proposed amendments involved changes to APAC ANP table structures and content that could have implications beyond the APAC Region. The meeting therefore emphasized the importance of maintaining global consistency in ANP formats and coordinating any substantial amendments through ICAO processes, including consultation with other ICAO regions and subsequent consideration through the established ICAO approval process.

5.10. The meeting formulated the following Draft Conclusion for further consideration by APANPIRG to progress the proposed amendments to APAC ANP Volumes I and II:

Draft Conclusion MET SG/30-11 — Improvements to APAC ANP MET Information	
What: That APANPIRG consider the proposed amendments to APAC ANP Volumes I and II contained in Appendices A, B and C to WP/16, including: • updates to Table MET II-2 relating to aerodrome meteorological service information; • updates to references concerning Volcanic Ash Advisory Centre (VAAC) service implementation information; and • relocation and enhancement of State Volcano Observatory (SVO) and Volcano Observatory Notice for Aviation (VONA) implementation information through the establishment of a new Table MET II-4, and request the ICAO Secretariat to initiate the established APAC ANP amendment process, including any necessary coordination with other ICAO Regions and subsequent ICAO consideration, as appropriate.	Expected impact: ☐ Political / Global ☒ Inter -Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To improve alignment with current Annex 3 and PANS-MET provisions, enhance awareness and monitoring of meteorological service implementation, improve the management of volcanic hazard information service implementation data, and ensure any structural changes to ANP content are considered through established ICAO processes with appropriate coordination across ICAO regions.	Follow-up: ☒ Required from States
When: APANPIRG/37	Status: Draft for consideration by APANPIRG
Who: ☒ Sub Groups ☐ RASG-APAC ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: XXXX	

5.11. The meeting noted that the proposed amendments would better reflect current Annex 3 and PANS-MET provisions, improve awareness and monitoring of meteorological service implementation, and ensure that information on VAAC and SVO services is maintained in a more appropriate and up-to-date location within the APAC ANP.

WP/17 Update on VONA Distribution – New Zealand

5.12. The meeting reviewed progress towards the development of distribution guidance to support the global availability of VONA. The meeting noted that Amendment 82 to Annex 3 introduced a Recommended Practice for State volcano observatories to use the VONA template and that, while

Annex 3 requires VONA distribution to designated recipients, no agreed method currently exists to ensure availability of VONA outside the ICAO region in which they are generated. The meeting further noted MET SG/29 Action 21 and the subsequent discussions at MET/IE WG/24.

5.13. The meeting noted that discussions at MET/IE WG/24 identified several issues requiring further consideration, including notification of VONA headers to Secure Aviation Data Information System (SADIS) and WIFS providers through the METNO process, retention periods for VONA within RODBs, and the need for VONA headers to support retrieval of information for individual volcanoes. The meeting further noted that APAC RODBs present at MET/IE WG/24 had indicated that VONA could generally be retained for periods of up to approximately three months and that this retention period was under consideration. During discussion, the meeting also noted challenges associated with the use of shared VONA headers for multiple volcanoes, which could result in earlier information being overwritten and complicate retrieval through existing request-reply services. Questions were raised regarding whether RODBs were the most appropriate mechanism for long-term retention of VONA information and whether alternative solutions may be required.

5.14. The meeting noted ongoing work within the ICAO METP Working Group – Meteorological Operations Group (MOG) International Airways Volcano Watch (IAVW) Work Stream to consider a recommended frequency of VONA updates when the aviation colour code is NIL, GREEN or UNASSIGNED. The meeting further noted that information from MET SG and MET/IE WG discussions would be provided to support this work and that the potential benefits of unique VONA headers for individual volcanoes would also be raised. The meeting additionally noted that guidance on the assignment of VONA headers for dissemination over aeronautical fixed services is included in the forthcoming update to the *Handbook on the International Airways Volcano Watch* (Doc 9766).

5.15. The meeting reviewed the proposal that VONA from other ICAO regions be distributed within the APAC Region in a manner similar to space weather advisories, whereby APAC IROGs would provide received VONA to APAC ROCs, which would then distribute the information to NOCs within their areas of coordination. The meeting also noted that further discussions were planned with APAC RODBs, SADIS and WIFS providers, State volcano observatories and other ICAO regions to develop globally consistent VONA distribution arrangements and associated guidance material. The meeting noted comments regarding operational implementation, including the need for user awareness and training, and the potential need for a more resilient global solution for VONA availability beyond existing RODB request-reply mechanisms. No new action was recorded, noting that related work would continue under the existing MET SG/29 action.

IP/03 Combined APAC VAAC Management Report – Australia, Japan, New Zealand and United States

5.16. The meeting reviewed the Combined APAC VAAC Management Report, including the consolidated global VAAC management report for 2025 and updates from VAAC Darwin, Tokyo, Washington and Wellington covering the period from 1 January to 31 May 2026. The meeting noted information on VAAC operational performance, key performance indicators, operational improvements, competency, stakeholder engagement, significant volcanic events, inter-VAAC collaboration, and progress towards implementation of quantitative volcanic ash concentration information (QVA).

5.17. The meeting noted that global VAAC activity remained high during 2025, with approximately 14,000 volcanic ash advisories issued worldwide, continued high levels of Annex 3 compliance, and ongoing collaboration through backup arrangements, exercises, shadow shifts, training activities and coordination with State volcano observatories and aviation stakeholders. The meeting further noted continued progress in the development and implementation of QVA, including operational implementation by VAAC London and VAAC Toulouse and ongoing preparations by other VAACs.

5.18. The meeting reviewed information on significant volcanic activity and operational developments in the APAC Region during 2026, including eruptions affecting the areas of responsibility of VAACs Darwin, Tokyo and Wellington, continued development of VONA capabilities, progress towards QVA implementation, enhancements to operational systems and communication arrangements, and outcomes of inter-VAAC backup tests. The meeting further noted ongoing efforts to improve operational resilience, information exchange and coordination between VAACs.

WP/30 Update of APAC ANP Volume III – Secretariat

5.19. The Secretariat informed the meeting of the draft update of the APAC ANP Volume III. The draft Volume III incorporates the performance improvement expectations, priorities, ASBU threads and elements from the APAC Seamless ANS Plan (APSAP), updated in accordance with the Eighth Edition of the GANP. The meeting was informed that the update would result in the integration of APSAP content into APAC ANP Volume III and the discontinuation of APSAP as a separate regional planning document.

5.20. The draft APAC ANP Volume III had been prepared following review of changes to ASBU elements under GANP Edition 8 and after consultation with APAC States and Administrations. The meeting was informed that comments received from Australia, China, Hong Kong China, Japan, Singapore and Sri Lanka had been incorporated, as appropriate, into the draft Volume III prepared for consideration by APANPIRG.

5.21. The meeting was informed that the draft had been prepared using the current ANP Volume III template while ICAO continues development of a new globally harmonized ANP Volume III template. The Secretariat advised that the new template was not expected to be available before 2028.

5.22. In reviewing the draft MET provisions, Australia noted concerns that the current draft was not sufficiently explicit regarding MET implementation expectations. Australia observed that some targets and implementation indicators relied heavily on references to ASBU elements and GANP material and may require further revision to clearly identify the MET services, products and capabilities expected to be implemented. The Secretariat advised that such recommendations on MET-related ASBU elements, priorities, targets and indicators were precisely the type of feedback sought from the MET SG and would be considered during further development of the draft for APANPIRG consideration. The Chair also noted that, while a number of editorial issues and areas requiring clarification had been identified, the timeframe before APANPIRG/37 would not allow the MET SG to provide a comprehensive review or detailed rewriting of all MET-related provisions.

5.23. The meeting discussed the proposed process for finalizing and maintaining APAC ANP Volume III. The Secretariat clarified that comments on the draft may be submitted in any form, including high-level observations on ASBU threads, priorities, targets, indicators, definitions and document structure, and that all feedback received would be reviewed and incorporated as appropriate prior to submission to APANPIRG/37. The meeting was informed further that, following APANPIRG consideration, amendments to Volume III could continue to be proposed by States, Administrations and relevant groups in accordance with the Volume III amendment process, with proposals reviewed by the relevant APANPIRG sub-groups before consideration by APANPIRG.

5.24. The Chair and MET SG Secretariat suggested that the discussion recorded in the meeting report would provide immediate feedback to the Secretariat and that further review and refinement of the MET-related provisions would be drafted by the Secretariat and could continue through the MET/R WG work plan and future updates of Volume III for consideration at MET SG/31.
[Action Item MET SG/30-10]

FL/03 Proposed changes to the Regional APAC SIGMET Guide to address WP/13 – New Zealand

5.25. The meeting considered FL/03 presented by New Zealand on behalf of VAAC Wellington, with the coordination and support of the APAC VAACs Darwin, Tokyo and Washington. The paper proposed alternative guidance to that contained in WP/13 regarding the issuance of volcanic ash (VA) SIGMETs when a Volcanic Ash Advisory (VAA) contains the phrase “VA NOT IDENTIFIABLE FM SATELLITE DATA”. The paper noted that the APAC VAACs considered the guidance proposed in WP/13 could result in inconsistent interpretation by MWOs and inappropriate issuance of VA SIGMETs in some circumstances. The paper proposed replacement guidance and examples for different operational scenarios, including cases where volcanic ash is estimated in the observation field of a VAA and a forecast (FCST) VA SIGMET would be recommended.

5.26. The meeting thanked VAAC Wellington and the APAC VAACs for coordinating the proposal. Singapore, on behalf of the ad hoc group on Regional SIGMET Guide updates, expressed support for the proposal. The meeting was informed that the additional examples helped clarify the operational intent of the VAA guidance. The meeting discussed several editorial improvements to enhance clarity, including the presentation and labelling of the different scenarios and clarification of the recommended SIGMET action in the scenario involving limited information on the extent of volcanic ash. The meeting agreed that the intent of the proposed guidance was clear and supported the proposed approach, subject to minor editorial refinements.

5.27. The meeting endorsed the proposed amendments contained in FL/03, Appendix A, subject to the agreed editorial refinements, for inclusion in the next revision of the APAC Regional SIGMET Guide as adopted in Decision MET SG/30-07.

FL/04 Inclusion of IWXXM form in the APAC ANP – Australia

5.28. The meeting considered FL/04 presented by Australia concerning the inclusion of IWXXM requirements in the APAC ANP. The meeting was informed that, following Amendment 82 to ICAO Annex 3 and the transfer of means of compliance provisions to PANS-MET (Doc 10157), the provision of OPMET information in IWXXM form is no longer specified in Annex 3. The paper noted that, unless the provision of IWXXM is specified in either ICAO Annex 3 or the regional ANP, the non-provision of IWXXM information may not meet the current APANPIRG definition of an air navigation deficiency. To address this issue, the paper proposed an amendment to APAC ANP Volume II, Part V (Meteorology) to require specified OPMET products and advisories to be provided in both TAC and IWXXM formats, with QVA also provided in IWXXM and gridded form. The paper further proposed a Draft Conclusion to support amendment of the APAC ANP and subsequent monitoring through APANPIRG planning, reporting and deficiency management processes.

5.29. The meeting agreed with the proposal as presented and supported the following Draft Conclusion:

Draft Conclusion MET SG/30-12 — Amendment of the APAC Air Navigation Plan (ANP) for the Provision of OPMET Information in IWXXM Form	
What: That, to support the digital exchange of aeronautical meteorological information and facilitate consistent monitoring of regional implementation and air navigation deficiencies: a) the APAC ANP be amended to include the requirement for the provision of Operational Meteorological (OPMET) information in IWXXM form, as contained in Appendix G of the MET SG/30 Report; b) States and Administrations are informed of the amended APAC ANP; and	Expected impact: ☐ Political / Global ☐ Inter -Regional ☒ Economic ☐ Environmental ☒ Ops/Technical

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c) the status of implementation be monitored through APANPIRG planning, reporting and air navigation deficiency management processes.	
Why: The provision of IWXXM has been an ICAO Annex 3 standard since November 2020. The creation of Procedures for Navigation Services Meteorology (PANS-MET) has resulted in the requirement for the provision of IWXXM form being transferred to PANS-MET. An unintended consequence is that the provision of OPMET in IWXXM form is no longer defined in ICAO Annex 3. To support the analysis of deficiencies, it is proposed to include the provision of OPMET in IWXXM form in the regional air navigation plan.	Follow-up: ☒ Required from States
When: As soon as practicable	Status: Draft to be adopted by APANPIRG
Who: ☒ Sub Groups ☐ RASG-APAC ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: XXXX	

5.30. The meeting further agreed to two related actions requesting the ICAO APAC Regional Office MET Secretariat to bring the issue to the attention of the ICAO HQ MET Secretariat, and requesting the METP WG-MIE Chair to bring the matter to the attention of the ICAO MET Panel Management Group. **[Action Item MET SG/30-11] [Action Item MET SG/30-12]**

IP/04 Consolidated Space Weather Information Service Management Report – Australia

5.31. The meeting reviewed the first Consolidated Space Weather Information Service (SWIS) Management Report, covering the period from 1 January to 31 December 2025. The report was developed by the Space Weather Centre Coordination Group (SWXCCG) to support the oversight responsibilities of the ICAO METP Working Group on Meteorological Operations Groups (WG-MOG) Space Weather Work Stream and provides information on the operation, performance and development of the ICAO SWIS.

5.32. The report provided information on space weather conditions during 2025, including periods of significant solar and geomagnetic activity, the issuance of space weather advisories for GNSS and HF communications impacts, and the operation of the four global Space Weather Centres and one regional Space Weather Centre. A total of 738 operational advisories and 23 test advisories were issued during the reporting period.

5.33. In the reported performance of the SWIS, the established key performance indicators required 90 per cent of advisories to be issued within 15 minutes after the threshold for advisory issuance was met and 99 per cent of advisories to contain no syntax or numbering errors and support automated processing by users. These performance targets were generally achieved during the 2025 reporting period.

5.34. The report also included information on operational continuity, future developments and service improvements, including implementation of Amendment 82 to Annex 3 and the PANS-MET, transition towards polygon-based advisories, ongoing harmonisation activities among Space Weather Centres, development of future amendments to ICAO provisions, user engagement activities, and work on the future transition of the SWIS to a SWIM-enabled environment. No unscheduled operational handovers occurred during the reporting period.

5.35. The meeting discussed the potential value of raising awareness of the availability of space weather advisories and the SWIS among other ICAO groups and users of the information, along with how to access it via their national COMMS Centre, and suggested that this be highlighted when MET SG outcomes are shared with other relevant ICAO APANPIRG sub groups. [**Action Item MET SG/30-13**]

WP/18 Latest Status of IWXXM – Hong Kong, China

5.36. The meeting was informed of the latest status of the ICAO Meteorological Information Exchange Model (IWXXM), including outcomes from the Thirteenth and Fourteenth Meetings of the ICAO METP Working Group on Meteorological Information Exchange (WG-MIE/13 and WG-MIE/14) and the publication of IWXXM 2025-2 in November 2025 to support Amendment 82 to Annex 3 and the PANS-MET.

5.37. Major changes introduced in the new version include:

- First introduction of the QVA package
- First introduction of the VONA package
- Changes to the METAR/SPECI, Volcanic Ash Advisory, and Space Weather Advisory packages in accordance with the changes of their respective TAC templates
- Changes to the METAR/SPECI package to allow the reporting of unlimited RVR, and temperature in tenths of a degree, in contrast to TAC
- Changes to the Meteorological Feature Package, and the WAFS Significant Weather Forecast package which has been based on it, to prepare for use by future packages to be developed
- Updates to documentation in IWXXM and all its packages to reflect the introduction of PANS-MET and the discontinuation of the WMO Technical Regulations (WMO-No. 49), Volume II, Meteorological Service for International Air Navigation

5.38. The meeting was informed of discussions within WG-MIE concerning the management of IWXXM versions for operational exchange. The meeting noted Decision MIE/13-03, which provided that, following the release of IWXXM 2025-2, only IWXXM version 2023-1 and later should be exchanged operationally. The meeting further noted subsequent WG-MIE decisions supporting the use of a single global IWXXM version for operational exchange, publication of the applicable IWXXM version in the PANS-MET with a delayed applicability date, and ICAO communication of IWXXM releases through State Letters when appropriate.

5.39. Ongoing WG-MIE work included communicating the operational deprecation of older IWXXM versions, globally coordinated implementation of future IWXXM versions, lifecycle management of IWXXM releases, and possible independent management of IWXXM packages. Other WG-MIE discussions included standardisation of AMQP headers and message structures for distribution of IWXXM reports within a SWIM environment and the planned inclusion of related material in the Guidance for MET-SWIM Implementation.

5.40. Based on the developments and proposals presented in WP/18, the meeting reviewed revisions to the draft conclusions on IWXXM version compatibility and dissemination that had been adopted during the discussion of WP/03, including updates reflecting the current operational IWXXM version and associated implementation actions. The meeting supported the revised Draft Conclusion MET SG/30-01 – IWXXM Version Compatibility, and Draft Conclusion MET SG/30-02 – Dissemination of IWXXM, as presented under paragraph 2.22.

6. Turbulence Information

WP/19 Proposal for Special Air-Reports Survey – New Zealand

6.1. The meeting reviewed a proposal by New Zealand to develop and issue a survey to better understand the receipt of special air-reports by APAC aviation meteorological service providers and the mechanisms used by States to require their provision. The meeting noted that the proposal supports APANPIRG Conclusion 36/17, which urges States to share special air-reports, including turbulence reports, with meteorological service providers and to provide information on the number of special air-reports received each calendar year.

6.2. The proposed survey would collect information on the number of special air-reports received by States and could also seek information on national legislation, procedures and mechanisms supporting the provision and receipt of special air-reports. The draft survey included questions relating to special air-report counts, reporting arrangements and national requirements for the provision of special air-reports.

6.3. During discussion, New Zealand clarified that Question 2 was intended to identify the number of special air-reports received by MWOs, including whether the figures were estimated or based on actual counts. Further refinement of the survey suggested during the discussion included collecting information on how reports are disseminated, whether reports are provided to WAFCs, challenges and issues associated with the exchange of reports, and consideration of turbulence information from all available sources in addition to special air-reports. The discussion also suggested enhancing the introductory background information to provide additional context to respondents regarding the purpose of the survey and its relationship to previous APANPIRG discussions and outcomes.

6.4. The meeting reviewed the proposal to establish a small ad hoc group to refine the draft survey in coordination with the APAC Regional Officer – Meteorology/Environment, with the aim of distributing the survey to States and analysing responses for possible presentation to APANPIRG/37. Australia, Hong Kong China, Japan and New Zealand offered to participate in the ad hoc group. The meeting supported issuance of the refined survey to APAC States and adopted the following Decision:

Decision MET SG/30-13 — Special Air-Report Survey Development	
What: The APAC Regional Officer – Meteorology/Environment, supported by a small ad hoc group consisting of members of the MET Sub-group, refine the draft survey on special air-reports (as provided in Appendix A of MET SG/30 WP/19) and issue to APAC States by end of August 2026, for potential sharing of results at APANPIRG/37 in November 2026.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Provision of special air-reports, when observing specific phenomena, is a Standard practice in Annex 3 and their receipt by meteorological service providers (including Meteorological Watch Offices) supports the provision of SIGMETs.	Follow-up: ☒ Secretariat
When: 31 Aug 26	Status: Adopted by Subgroup
Who: ☐ Subgroups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

IP/05 HKO Experiences on Turbulence Observations – Hong Kong, China

6.5. Hong Kong, China provided information on the Hong Kong Observatory's (HKO's) experience in the collection, dissemination and utilisation of aircraft observations on turbulence. The

meeting was also reminded of an earlier presentation on the same topic delivered at a previous APAC MET meeting. The paper highlighted the Annex 3 requirements for the reporting and relay of special air-reports concerning hazardous weather phenomena, including turbulence, and the use of eddy dissipation rate (EDR) as the ICAO-standard, aircraft-independent metric for turbulence intensity. The paper highlighted the importance of turbulence and wind shear observations for operational warnings, forecasts and aviation safety.

6.6. The meeting was informed of the arrangements used in Hong Kong for the receipt and dissemination of special air-reports. Reports received by the air traffic services unit are relayed to the MWO, encoded in the ICAO format and disseminated globally through the AMHS and VOLMET services. The meeting was informed that 112 turbulence-related special air-reports were received within the Hong Kong FIR during 2025 and were used to support operational SIGMET assessment and issuance. In response to a question from the meeting, Hong Kong, China clarified that these reports were received from a mix of local airlines, international airlines and overflying aircraft, while low-level wind shear reports were predominantly associated with local airline operations at Hong Kong International Airport (HKIA).

6.7. Special air-reports are displayed in real time on operational aviation meteorological platforms and retained for climatological studies, validation of turbulence detection and forecasting algorithms, and post-event analysis. The meeting was also informed of HKO's collaboration with local airlines to collect real-time onboard EDR reports and high-resolution Quick Access Recorder flight data to support turbulence monitoring, analysis and research activities.

6.8. The paper provided information concerning the collection and use of low-level wind shear reports at HKIA. Pilot reports are used to support operational wind shear alerting services, evaluation of the Windshear and Turbulence Warning System, and research into wind shear characteristics under different environmental conditions.

IP/06 Availability of Air-Reports from the United States – United States

6.9. The United States provided information on the availability of air-reports (AIREPs) through the Washington IROG. The paper was prepared in response to discussions at MET SG/29 concerning turbulence information, the availability of air-reports, and the importance of timely meteorological information for forecasting and operational awareness.

6.10. Washington IROG sources global OPMET information from the AMHS and stores and forwards the information to WAFC Washington. Furthermore, WAFC Washington conducted a review of AIREPs received during the period April to June 2026 and the results were provided in IP/06, Appendix A.

6.11. The paper provided information on the availability of AIREPs by ICAO region, State, source and WMO identifier. The information provides an indication of how frequently AIREPs are received and disseminated through the Washington IROG. The United States clarified that, for the purposes of the paper, the term "PIREP" has the same meaning as an AIREP. The meeting discussed the data presented in IP/06, Appendix A and noted that the reported numbers varied significantly between States, prompting interest in understanding the reasons for these differences and identifying possible good practices within the region.

6.12. The discussion noted that the information provided a useful indication of AIREP availability. Australia questioned whether any information was available regarding the quality and reliability of the reports received. The meeting discussion also considered whether a comparison of AIREP data received by WAFC Washington and WAFC London might assist in identifying differences in reporting and dissemination practices and improve understanding of the data. The United States

advised that the paper was based solely on data received by WAFC Washington and agreed to undertake further coordination with WAFC London regarding a comparison of the respective datasets.

6.13. The Chair invited WAFC Washington to further cross-check the information with WAFC London and report the findings to a future MET SG meeting. **[Action Item MET SG/30-14]**

6.14. Suggestions from the meeting also noted alternative approaches, including inviting WAFC London to provide equivalent information directly to MET SG or the preparation of a coordinated report by WAFC Washington and WAFC London for consideration at the next meeting.

IP/07 Aircraft EDR Data Sharing and Forecasting in China – China

6.15. China provided information on progress in aircraft Eddy Dissipation Rate (EDR) data sharing and turbulence forecasting. China reported on research involving the Civil Aviation Administration of China, the Air Traffic Management Bureau, airlines and other stakeholders to promote EDR data standardization, quality control, information sharing and multi-source data integration.

6.16. China advised that differences in onboard EDR algorithms and data formats among airlines continue to present challenges to data sharing and forecast verification. A quality control system for aircraft EDR data has been established, while normalized EDR values and associated conversion models have been developed to support real-time sharing of quality-controlled EDR data through dedicated collection, distribution and access-control arrangements. In response to a question from Australia, China explained that EDR data, although intended to provide a standardized measure of turbulence, may exhibit inconsistencies between airlines and aircraft systems due to differences in onboard algorithms and processing methods. China advised that these differences are a key focus of ongoing research and data normalization activities.

6.17. The meeting was informed of progress in turbulence forecasting and early warning technologies. Multiple turbulence indices are being integrated using deep-learning techniques and numerical weather prediction data, with normalized EDR observations used for calibration and forecast correction. Ongoing work includes hourly EDR forecasts, real-time EDR fusion and extrapolation products, and turbulence impact assessment models delivering nationwide minute-level early warnings.

6.18. China also reported on development of EDR visualisation tools, unified turbulence warning and forecast products, and personalised services for airlines. Research into onboard EDR algorithms is being undertaken using historical EDR data, pilot reports and turbulence incident records to assess algorithm performance and identify the most accurate and applicable solutions. China further advised that it intends to continue promoting EDR data sharing, turbulence validation activities and multi-source meteorological data integration, and to share relevant technical experience and operational practices when applicable.

IP/08 Aircraft Turbulence Characteristics in China – China

6.19. China provided information on the characteristics of aircraft turbulence based on airborne data collected over the Chinese mainland. The analysis was based on 427,956 ACARS¹ turbulence reports from 1,334 aircraft between 2015 and 2023 and examined the temporal and spatial distribution of turbulence, intensity characteristics, aircraft types, altitudes and associated wind conditions.

¹ ACARS

6.20. The meeting was informed that the number of turbulence reports showed significant inter-annual variation, increasing before the COVID-19 pandemic, decreasing during the pandemic, and rising sharply again in 2023 following the recovery of flight operations. Furthermore, turbulence reports were mainly concentrated during spring and summer, particularly from March to August, with July recording the highest number of reports.

6.21. China reported temporal and spatial characteristics of turbulence. The paper noted that 72.84 per cent of turbulence reports occurred between 1000 and 2100 Beijing time, with the peak at 1300, and that turbulence reports were concentrated in the central-south, southwest, east-central and northern regions of China, accounting for 77.79 per cent of all reports.

6.22. Most moderate turbulence reports occurred below 7,880 metres, while a larger proportion of severe turbulence reports occurred above 10,000 metres. Moderate turbulence accounted for 94.42 per cent of all reports, while severe turbulence accounted for 5.58 per cent. The analysis also indicated that severe turbulence was more frequently associated with wind speeds of 25 m/s or higher and that narrow-body aircraft accounted for 91.74 per cent of severe turbulence reports.

6.23. The Chair noted the large number of turbulence reports available for the study and highlighted the particularly high proportion of severe turbulence reports involving narrow-body aircraft.

7. Aviation Exercises for Volcanic Ash and Meteorological Events

IP/09 Plans for Papua New Guinea Volcanic Ash Exercise – New Zealand

7.1. New Zealand provided information on plans for a volcanic ash exercise based on a simulated eruption of the Papua New Guinea volcano Rabaul. The paper noted Papua New Guinea's high level of volcanic activity and the associated aviation hazards arising from active and potentially active volcanoes within the country.

7.2. The meeting was reminded that Papua New Guinea currently has deficiencies relating to the provision of volcano observation information and volcanic ash SIGMETs. Furthermore, the Papua New Guinea Civil Aviation Safety Authority and Papua New Guinea National Weather Service, in coordination with the Rabaul Volcano Observatory, VAAC Darwin, VAAC Wellington and the Civil Aviation Authority of New Zealand, are planning an exercise to simulate an eruption of Rabaul.

7.3. The meeting was informed of the objectives of the exercise and that the exercise is intended to demonstrate information flow and coordination between the State volcano observatory, MWO Port Moresby, VAAC Darwin, the air navigation service provider Niusky and Air Niugini, and to support the resolution of Papua New Guinea's identified deficiencies.

7.4. The exercise, originally planned for 24 June 2026, had been postponed following the eruption of Titan Ridge and would be conducted later in 2026 on a date to be determined. The meeting was also advised that the additional planning time may allow participation by neighbouring ANSPs, MWOs and airline operators, and that the exercise would provide an opportunity to demonstrate the provision of quantitative volcanic ash concentration information (QVA) by VAAC Darwin.

7.5. The Chair noted that the postponement, due to an actual volcanic eruption, highlighted the operational importance of such exercises and encouraged interested neighbouring MWOs and other stakeholders to participate if the exercise is expanded. The United States welcomed the inclusion of QVA in the exercise, noting that it would provide an opportunity to increase awareness and understanding of QVA implementation ahead of it becoming a Recommended Practice for all VAACs in November 2026.

8. Research, Development and Other Initiatives

WP/20 Hazardous Weather Information Service (HWIS) Southern Trial – Hong Kong, China

8.1. The meeting was informed of the outcomes of the 2025-1 and 2026-1 Hazardous Weather Information Service (HWIS) southern trials conducted over the South China Sea. Two sub-trials were conducted by China, with the northern sub-trial led by the Aviation Meteorological Center (AMC) of the Air Traffic Management Bureau (ATMB) under the Civil Aviation Administration of China (CAAC) and the southern sub-trial led by HKO. The trials formed part of the ICAO METP's work to support the development and validation of a SWIM-enabled, phenomena-based, globally consistent hazardous weather information service for en-route meteorological conditions, initially covering cumulonimbus clouds, icing and turbulence.

8.2. The meeting was informed that the 2025-1 southern trial, hosted by HKO, involved forecasters from China, Hong Kong China, Singapore, Thailand and Viet Nam and focused on cumulonimbus cloud forecasting. The trial tested collaborative HWIS production workflows, integration of nowcasting products, harmonisation of information across FIRs, and the timeliness of HWIS production. Seven recommendations relating to sovereignty, harmonisation, update frequency, knowledge sharing and the effectiveness of a dedicated platform were developed and submitted to the METP Working Group on Meteorological Requirements and Development (WG-MRAD).

8.3. The meeting was informed of the outcomes of the 2026-1 southern trial, which involved the same participants with the addition of Guangzhou FIR and covered cumulonimbus analysis and forecasting, as well as icing forecasting. The trial assessed different harmonisation methodologies, HWIS requirements and contribution mechanisms, and formulated six recommendations relating to local and regional input, HWIS format requirements, forecast intervals, analysis timescales, harmonisation methodology and platform effectiveness, which were submitted to WG-MRAD.

8.4. During the discussion, the Chair observed that the recommendations arising from the trials would contribute to the ongoing development of the future HWIS and help ensure that regional operational experience is reflected in the development process. In response to questions from the Chair, Hong Kong, China explained that the trials had provided useful insight into operational feasibility, including matters relating to data latency, internet connectivity, harmonisation and update frequency. These areas will continue to be assessed through future trials.

8.5. Hong Kong, China advised that interested States and Administrations may participate in future HWIS trials by contacting the relevant trial leads. Enquiries regarding the southern trial and information on other ongoing trials within the APAC Region can be directed to members of the MET Panel ad hoc group on HWIS trials: Australia, China, Hong Kong China, and Japan.

IP/10 Meteorological Services in Support of Low-Altitude Economy Development – Hong Kong, China

8.6. Hong Kong, China provided the meeting with information on the development of meteorological services to support Low-Altitude Economy (LAE) operations enabled by Advanced Air Mobility (AAM). Hong Kong, China reported on activities relating to low-altitude airspace operations and the development of supporting meteorological infrastructure and services. The role of regulatory sandboxes in providing operational experience for developing meteorological support to LAE operations was also discussed. The Chair observed that the rapid growth of drone operations and AAM activities means that meteorological service providers will increasingly need to consider how to support this category of airspace users.

8.7. The meeting was informed that the HKO is collaborating with venue partners and

Sandbox participants to deploy meteorological monitoring equipment and develop a prototype meteorological services platform supporting low-altitude operations. The platform integrates weather observations and forecasts to support continuous weather risk assessment before and during flights and is being refined through operational testing and user feedback.

8.8. The meeting noted information provided on the applicability of System Wide Information Management (SWIM) concepts to LAE operations. The meeting further noted information contained in the paper regarding the importance of integration between meteorological services, ATM systems and unmanned aircraft traffic management (UTM) systems, as well as the need for regional collaboration and stakeholder engagement. During the discussion, Australia welcomed the work being undertaken by Hong Kong, China and expressed interest in learning more about the meteorological services being provided and the algorithms supporting them. Australia also noted the potential value of operational feedback from vehicles and aircraft to improve understanding of highly localised conditions and support further refinement of meteorological services.

IP/11 Aviation Impact-Based Forecast Service – Republic of Korea

8.9. The Republic of Korea provided the meeting with information on aviation impact-based forecast services developed to support airport stakeholder decision-making. The Aviation Meteorological Office of the Korea Meteorological Administration provides runway surface temperature prediction information during summer and aircraft frost prediction information during winter to support safe and efficient aircraft operations and ground handling activities.

8.10. The runway surface temperature prediction service was developed using regression analysis based on runway surface temperature, air temperature, cloud amount, wind speed and relative humidity observations. The service is provided twice daily, supports decisions on runway watering operations, has been expanded from Incheon International Airport to other airports, and continues to be improved through annual verification and refinement activities, including development of NWP model-based prediction capabilities. Hong Kong, China sought clarification on the methodology used to observe runway surface temperature, including the sites to install temperature sensors and the observational data period used to develop the prediction equations.

8.11. The meeting was also informed on the aircraft frost prediction information service developed to support decision-making on aircraft de-icing and anti-icing operations. The service uses forecast probabilities derived from observations and MOS¹ data and is currently provided at Incheon, Gimpo, Muan and Ulsan airports. The information is produced twice daily, identifies caution and danger levels using airport-specific thresholds, and is incorporated into aerodrome weather information provided to airport stakeholders during the winter season.

8.12. Both services are subject to ongoing verification, refinement and planned expansion to additional airports. The Republic of Korea reported improvements in forecast performance and the use of the forecast information as part of aviation impact-based meteorological services supporting airport operational decision-making. The Chair highlighted the services as a practical example of translating meteorological forecasts into operationally relevant information for airport stakeholders. The meeting discussion also highlighted the relevance of runway surface temperature information to ongoing ICAO discussions on future information services and airport meteorological support.

IP/12 Fine-Scale Wind Field Forecasting to Enhance Airport Operational Efficiency – China

¹ Model Output Statistics

8.13. China provided the meeting with information on the development of fine-scale wind field forecasting to support airport operations. The approach integrates wind field observation data with conventional radar datasets to improve short-range forecasting accuracy and provide high-resolution wind field forecasts and strong wind alerts for aviation users. The resulting products support flight safety, air traffic control efficiency and airport operational decision-making.

8.14. The meeting was informed that forecast datasets for East China were downscaled to finer spatial resolutions and corrected using airport observations, high-resolution terrain data and multiple linear regression techniques. Furthermore, the corrected data were incorporated into a multi-model ensemble forecasting algorithm to establish an intelligent forecasting equation for mid- and low-level wind fields in the Shanghai airport area.

8.15. The paper highlighted studies on low-level wind shear associated with sea-breeze fronts and the relationship between runway wind fields and runway configuration changes at Shanghai Hongqiao and Shanghai Pudong airports. The work examined the impacts of wind fields on runway operations and developed decision-support products for runway direction changes and aircraft arrival and departure scheduling.

8.16. The meeting was informed of the development of support products for airport surface operations, including high-wind warning products, indices for aerodrome vehicle operations and passenger boarding bridge management, and recommendations for boarding bridge allocation. The meeting was further informed of the planned development of a dedicated terminal airspace warning system and specialised display functions for area, tower and approach control users, as well as aerodrome operators.

IP/13 Development of a Tool for Quality Check of METAR and SPECI Reports – Philippines

8.17. The Philippines provided information on the development of the Aviation Lexical Error Review Tool (ALERT) to support the quality control of METAR and SPECI reports. The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), as the NOC for the Philippines, disseminates OPMET data in TAC format through the AMHS/AFTN workstation of the Civil Aviation Authority of the Philippines (CAAP) and has developed ALERT to facilitate prompt review of disseminated reports and timely corrective action where necessary.

8.18. The paper noted that OPMET data dissemination currently involves manual encoding and that integration of a quality control application with the AMHS system is not yet possible pending establishment of a secure network between CAAP and PAGASA systems. The review of METAR and SPECI reports is therefore performed immediately after dissemination using internet-based sources.

8.19. The paper also covered the functions of ALERT. The tool enables operational personnel to retrieve the latest METAR and SPECI reports and perform quality checks for common coding errors, omitted parameters, non-standard code groups and selected meteorological inconsistencies. Where an error is identified and confirmed, a corrected report is issued in accordance with established procedures.

8.20. The ALERT contributes to operational quality assurance and supports personnel competency by providing immediate visual feedback on possible coding errors. The meeting was informed of plans to enhance the system to support quality control prior to dissemination through future integration with the CAAP AMHS system, enabling potential coding and consistency issues to be identified before transmission.

8.21. Hong Kong, China welcomed the initiative and noted that improvements in METAR and SPECI quality would also improve TAC-to-IWXXM translation success rates and the quality of the resulting IWXXM products. Australia noted that many States in the region continue to manually

produce METAR and SPECI reports and highlighted the value of sharing lessons learned from the development of such tools. The Chair noted that improved report quality would support reliable TAC-to-IWXXM translation and future IWXXM implementation.

WP/21 SADIS, WIFS and WAFS Matters – WAFC London

8.22. The meeting was provided with information concerning SADIS FTP¹, WIFS, the SADIS API² and the WIFS API. The meeting was reminded that SADIS FTP and WIFS services are planned to be retired in November 2028, and that users will need to migrate to the SADIS API or WIFS API before that date. The meeting was also informed of the benefits of the API services, including access to higher-resolution WAFS gridded datasets and multi-timestep significant weather (SIGWX) forecasts, as well as recent enhancements to both API platforms. WAFC London emphasized that the November 2028 retirement date was the most important message from the paper and encouraged States to begin preparations for migration as early as possible.

8.23. The meeting was informed concerning SADIS implementation within the APAC Region, the SADIS cost-recovery arrangements, the work of the SADIS Cost Recovery Administrative Group (SCRAG), and the planned 2026 SADIS efficacy survey. The meeting was also reminded that the SADIS focal point information maintained by ICAO requires updating and that some records are missing or out of date. The meeting was advised that, following Australia's agreement to participate in SCRAG, an additional representative from the APAC Region was being sought.

8.24. The paper emphasized the importance of ensuring that SADIS focal point information remains current to support effective communication with users and requested SADIS-using States in the APAC Region to review their information in the SADIS Focal Points document and notify updated contact information, or request deletion of obsolete records, to the SADIS Manager by 30 September 2026. **[Action Item MET SG/30-15]**

8.25. Australia suggested that additional action be taken to promote awareness of the forthcoming change, noting that migration efforts often take longer than expected. WAFC London welcomed additional regional communication initiatives to support user awareness and preparation. **[Action Item MET SG/30-16]**

IP/16 Organisation of a SWIM Training cum Workshop in August 2026 – Secretariat

8.26. The Secretariat informed the meeting of the ICAO APAC SWIM Training cum Workshop to be held in Hanoi, Viet Nam, from 25 to 27 August 2026. The workshop would support implementation of the APAC SWIM Implementation Timeframe (2024–2030) by enhancing participants' understanding of SWIM concepts, standards, infrastructure and operational information services through presentations, practical demonstrations, hands-on development sessions and exchange of implementation experiences.

8.27. The Secretariat noted that the workshop, hosted by the Viet Nam Air Traffic Management Corporation (VATM), would cover SWIM concepts, ICAO provisions, standards and guidance material, practical implementation considerations, and the use of SWIM-enabled information services to enhance operational effectiveness. States were encouraged to send delegations comprising regulators and service provider personnel involved in SWIM implementation.

¹ FTP

² API

8.28. The Secretariat advised the meeting that, following discussions at the Eleventh Meeting of the APAC SWIM Task Force (SWIM TF/11), the workshop programme would be updated to include additional information domains, including meteorology. The Secretariat thanked Australia for initiating and coordinating the inclusion of meteorological content in the workshop programme, noting that meteorological information is an essential component of the transition to SWIM.

9. Environmental-Related Initiatives and Impacts

IP/02 ICAO Environmental Protection and Air Navigation Planning Initiatives: Relevance to Aeronautical Meteorology – Secretariat

9.1. The Secretariat presented information on ICAO environmental protection and air navigation planning initiatives, including the ICAO Strategic Plan 2026–2050, the Long-Term Global Aspirational Goal (LTAG), State Action Plans (SAPs), the Global Air Navigation Plan (GANP), Regional Air Navigation Plans (ANPs) and National Air Navigation Plans (NANPs). The information illustrated the linkages between ICAO's environmental protection programme and air navigation planning activities and their relevance to aeronautical meteorology.

9.2. ICAO has adopted a Long-Term Global Aspirational Goal (LTAG) of net-zero carbon emissions from international aviation by 2050, and ICAO's environmental protection activities focus on climate change and aviation emissions, aircraft noise and local air quality. The ICAO Strategic Plan 2026–2050 identifies environmental sustainability as one of ICAO's Strategic Goals and highlights the importance of operational efficiency, digitalisation and sustainable growth.

9.3. The paper noted the relationship between ICAO's environmental protection initiatives and air navigation planning. The GANP provides a framework for the evolution of the global air navigation system while supporting environmental objectives, and regional and national air navigation plans, i.e., ANPs and NANPs, support implementation of agreed operational improvements. The paper further noted the role of SAPs in identifying, implementing and monitoring measures to reduce CO₂ emissions from international aviation.

9.4. The meeting was invited to note the relevance of these initiatives to aeronautical meteorology. Meteorological services support operational efficiency, flight planning and route optimisation, including through the consideration of meteorological conditions in operational decision-making. The paper further noted ICAO work relating to climate-change adaptation, the resilience of aviation infrastructure and operations, and ongoing consideration of operational opportunities to reduce non-CO₂ climate effects, including contrails and aviation-induced cirrus.

9.5. The meeting was reminded that the MET SG provides a forum for the exchange of information on aviation meteorological initiatives that support the reduction of aviation's environmental impact and the impacts of climate change on aviation operations. The sharing of regional experiences, research, operational developments and implementation initiatives may assist States in understanding relevant ICAO environmental protection and air navigation planning initiatives and support broader ICAO objectives relating to environmental sustainability, climate-change adaptation and operational efficiency.

IP/14 Civil Aviation Meteorological Services for Environmental Protection in China – China

9.6. China presented information on the contribution of civil aviation meteorological services to environmental protection and carbon emission reduction. China's civil aviation meteorological authorities have enhanced forecast accuracy, operational applicability and coordination with aviation stakeholders to support more efficient flight operations and reduce unnecessary fuel burn and emissions associated with adverse weather conditions.

9.7. The meeting was informed that new meteorological observation technologies, including phased-array weather radars, lidars and wind profiler radars, have been deployed to improve monitoring of low-level wind fields and convective weather. The paper further noted ongoing enhancements to numerical weather prediction models, the application of machine learning techniques, improvements to turbulence diagnosis models, and the transition towards impact-based forecasting and visualised meteorological products to support operational decision-making.

9.8. The paper reviewed the provision of pre-tactical and tactical meteorological support for flight operations, including the use of significant weather probability forecasts to support operational planning before departure and the implementation of continuous monitoring and rolling updates for significant weather events. The meeting was informed that these services support measures including flight rerouting, schedule adjustments, optimized runway use, flight sequencing and flow management arrangements intended to reduce holding, diversions and other inefficient operations.

9.9. The paper noted the establishment of nationwide flight operation monitoring and coordination mechanisms involving meteorological authorities, air traffic management, airports and airlines. The meeting was invited to note the implementation of collaborative approaches to adverse weather management, including early warning, coordinated decision-making and collaborative rerouting arrangements, and information indicating improvements in flight punctuality and reductions in average flight delays during the 2025 thunderstorm season.

9.10. The meeting was informed that these initiatives have supported safe flight operations, improved operational efficiency, reduced aviation carbon emissions, and contributed to the green and low-carbon development objectives of China's civil aviation sector.

10. Future Work Program

WP/22 Review of the MET SG Terms of Reference and Work Plan – Secretariat

10.1. The Secretariat presented the current Terms of Reference (ToR) and Work Plan of the MET SG. The ToR and Work Plan provide the framework for MET SG activities supporting the planning and implementation of aeronautical meteorological services in the APAC Region. APANPIRG/36 had noted updates proposed by MET SG/29 to ensure continued responsiveness to operational priorities and technological developments.

10.2. The meeting was reminded that the current Work Plan includes activities related to maintenance of the meteorological components of the APAC ANP, development of regional guidance material, identification and resolution of MET deficiencies, implementation of IWXXM and SWIM-based meteorological information services, support for ATM operations, capacity-building activities, and environmental and climate-related initiatives.

10.3. The paper noted outcomes from APANPIRG/36 relevant to future MET SG activities. These included the importance of continuing support for the resolution of long-standing MET deficiencies, improving the availability and exchange of operational meteorological information, strengthening MET–ATM collaboration, supporting State volcano observatories and volcanic ash activities, and providing assistance to States, particularly PSIDS, through workshops, capacity-building activities and regional cooperation initiatives.

10.4. The meeting reviewed proposed amendments to the MET SG ToR and Work Plan. The paper included proposals to strengthen provisions relating to guidance material, seminars, workshops and capacity-building activities, introduce a new function promoting collaboration between meteorological service providers, ATM stakeholders and other aviation partners, and update Work Plan activities relating to APAC ANP Volume III, long-standing MET deficiencies, IWXXM

implementation, SWIM-enabled meteorological information services, MET–ATM collaboration and capacity building.

10.5. During the review, meeting participants from Australia, China, Hong Kong China, Japan, Pakistan, and the United States suggested several improvements to the Secretariat’s proposals plus additional amendments to the ToR and Work Plan. The meeting agreed to the changes to further improve consistency of information within the document and to better align MET SG activities with APANPIRG/36 priorities, particularly MET deficiency resolution, IWXXM and MET-SWIM implementation, MET–ATM collaboration, capacity-building activities, support for PSIDS, and APAC ANP Volume III developments.

10.6. The meeting agreed to revise the MET SG Terms of Reference and Work Plan as contained in **Appendix E**, which incorporates amendments agreed during the meeting, for inclusion in the MET SG report to APANPIRG and formulated the following Draft Decision:

Draft Decision MET SG/30-14 — Revised MET SG Terms of Reference and Work Plan	
What: That the revised Terms of Reference and Work Plan of the APAC Meteorology Sub-Group (MET SG), as contained in Appendix E of the MET SG/30 Report, and included in the MET SG report to APANPIRG for further consideration, be endorsed by APANPIRG.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To incorporate amendments agreed during MET SG/30 and better align the MET SG Terms of Reference and Work Plan with APANPIRG/36 priorities, including MET deficiency resolution, IWXXM and MET-SWIM implementation, MET–ATM collaboration, capacity-building activities, support for Pacific Small Island Developing States, and APAC Air Navigation Plan Volume III developments.	Follow-up: ☐ Required from States
When: APANPIRG/37	Status: Draft for consideration by APANPIRG
Who: ☒ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

10.7. The meeting agreed there would be value in reviewing the consistency of the MET working group terms of reference to that of the sub group. The MET SG and WG Chairs would meet to progress this activity and report back to the relevant WG and SG meetings. [**Action Item MET SG/30-17**]

11. Any Other Business

WP/08 Dates, Venue and Agenda for MET SG/31 – Secretariat

11.1. The Secretariat presented WP/08 (Revision 1) on the proposed arrangements for MET SG/31, including information on the tentative programme of relevant ICAO, APAC and WMO meetings scheduled in 2027 to support consideration of suitable dates and timing for the next meeting.

11.2. To allow sufficient time for the completion of MET/IE WG/25 and MET/R WG/16, preparation of meeting reports, and development of proposals requiring MET SG consideration, MET SG/31 was proposed to be held in July or August 2027. The meeting noted that, subject to any State expressing interest in hosting the meeting, MET SG/31 could be held at the ICAO APAC Office, Bangkok, Thailand. The Secretariat further noted that the final meeting dates would also take into

account the potential impact of national holidays in Thailand, the schedule of related ICAO meetings and other relevant scheduling considerations. The meeting noted that further coordination would be required before final confirmation.

11.3. The Secretariat proposed the provisional agenda for MET SG/31 comprising eleven agenda items covering organizational matters, outcomes from previous meetings, air navigation deficiencies, regional guidance material, planning and monitoring, meteorological information exchange, aviation exercises for volcanic ash and meteorological events, research, development and other initiatives, review of the MET SG Terms of Reference and Work Plan, arrangements for future meetings, and any other business.

11.4. The proposed agenda had been streamlined to reflect the current work programme of the Sub-group and its contributory bodies. A dedicated agenda item on Meteorological Information Exchange was proposed, while the previously separate agenda items on Turbulence Information and Environmental-Related Initiatives and Impacts were consolidated under Research, Development and Other Initiatives. Based on feedback from the meeting, the Chair suggested that the item on Turbulence Information could be consolidated as proposed, but it would be preferable to maintain a separate agenda item for Environmental-Related Initiatives and Impacts. The meeting agreed to the provisional agenda on this basis.

SP/01 Outcomes of AI Survey – Secretariat

11.5. ICAO Secretariat outlined the outcomes of the ICAO Global Artificial Intelligence (AI) Survey, which was conducted to evaluate the status and future needs of AI governance in aviation, following recommendations from the 42nd ICAO Assembly. It was informed that the survey aimed to develop a comprehensive regulatory framework and a strategic vision for AI implementation in the aviation sector.

11.6. The Meeting was informed that the outcomes of the survey have been shared with the ANC Ad-Hoc Working Group on Innovation. The Council will review the outcome of the survey on the use of AI in aviation and assess the need for the development of a strategic vision and high-level framework for the use of AI in aviation, with potential directions including continued study of the issue or developing a proposal for a task force to work on high-level deliverables.

SP/02 Outcomes of the Survey to Measure the Implementation of the First Set of ICAO APAC Gender Equality Indicators – Secretariat

11.7. ICAO Secretariat presented the outcomes of the first ICAO APAC Gender Equality Indicators Survey. It was informed that the objective of the survey was to assess the implementation of gender equality indicators in the APAC region.

11.8. The Meeting was informed that to measure implementation of the first set of the ICAO APAC gender equality indicators in APAC, the ICAO APAC Office, in coordination with a network of Gender Focal Points of ICAO Member States/Administrations, compiled some of the key indicators that can be used to measure implementation of gender equality in APAC. The first set of indicators selected for the APAC region, including Gender Equality Policy, Leadership position, and safe and secure working environment, was published on the ICAO APAC Gender Equality Webpage.

11.9. The Meeting was informed that the ICAO APAC Office conducted the survey by issuing State Letter Ref. O 2/12.1– AP123/25 (CNS) on 17 September 25. In response, 16 States/Administrations/International Organizations, including Australia, Cambodia, China, Macao China, Fiji, Indonesia, Malaysia, Mongolia, Nepal, New Zealand, PASO, Pakistan, the Philippines, PNG, Singapore and Thailand, responded to the survey.

11.10. The Meeting was presented with the survey questions and responses in detail. Key observations revealed positive progress, such as broadly established safe and inclusive working environments and existing policies and training for workplace protection. However, areas requiring action include the limited adoption of measurable gender equality targets and a persistent imbalance in leadership and decision-making roles. The way forward involved transitioning from measurement to action by adopting measurable national targets aligned with ICAO aspirations and integrating these into national aviation strategies and HR frameworks. It was noted that it is also crucial to build a leadership pipeline by strengthening career pathways and mentorship for women, with the ICAO APAC Regional Office providing support through guidance, capacity building and regional monitoring tools.

11.11. The Meeting was informed that the survey results will be shared at the DGCA/61 Conference, and survey outcomes will be discussed with the Global Network of Gender Focal Points of ICAO Member States/Administrations. States/Administrations were requested to respond to the survey, review the indicators, and provide feedback. It was also encouraged to take the necessary measures to strengthen gender equality by supporting policies, the establishment, development and improvement of strategies and programs to further women's careers within the aviation sector.

— END OF SECTION —

MET SG/30
Appendix A – List of Participants

APPENDIX A

MET SG/30 – List of Participants

STATE/NAME		PARTICIPANT		TITLE/ORGANIZATION	E-MAIL
1	AUSTRALIA (2)	1	Ms. Amber Raman	Manager Meteorological Authority Office, Australian Bureau of Meteorology	amber.raman@bom.gov.au;
		2	Mr. Tim Hailes	National Manager - Transport Customer Engagement, Australian Bureau of Meteorology	tim.hailes@bom.gov.au;
2	BHUTAN (1)	3	Ms. Ugyen Lhamo	Meteorology/Hydrology officer, National Centre for Hydrology and Meteorology(NCHM)	ulhamo@nchm.gov.bt;
3	CHINA (4)	4	Mr. Zou Guoliang	Division Director, Civil Aviation Administration of China (CAAC), Air Traffic Regulation Office	29885506@qq.com;
		5	Ms. bai yanqiu	director, Meteorological Information Division Aviation Meteorological Center, Air Traffic Management Bureau, Civil Aviation Administration of China	baiyanqiu5@163.com;
		6	Ms. Jing Cong	inspector, CAAC East China Regional Administration, Civil Aviation Administration of China	congjing_hd@caac.gov.cn;
		7	Mr. Kaijun Zhang	Deputy Director of Meteorology Department, Northwest Regional Air Traffic Management Bureau of CAAC	kkjjzh@163.com;
4	HONG KONG, CHINA(2)	8	Mr. Marco Mang-hin KOK	Senior Scientific Officer, Hong Kong Observatory	mhkok@hko.gov.hk;
		9	Ms. Christy Yan-yu LEUNG	Acting Senior Scientific Officer, Hong Kong Observatory	yyleung@hko.gov.hk;

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STATE/NAME		PARTICIPANT		TITLE/ORGANIZATION	E-MAIL
5	MACAO, CHINA(1)	10	Mr. Lao Ieng Wai	Chief of Aeronautical Meteorology and Climatology Division, Macao Meteorological and Geophysical Bureau	allanlao@smg.gov.mo;
6	JAPAN (2)	11	Mr. FUJIMOTO Masato	Scientific Officer, Japan Meteorological Agency	fujimoto-ms@met.kishou.go.jp;
		12	Ms. IKEDA Michiko	Senior Coordinator for International Aeronautical Meteorology, Japan Meteorological Agency	michi-ikeda@met.kishou.go.jp;
7	LAO PEOPLE'S DEMOCRATIC REPUBLIC (1)	13	Mr. XAYPHONE LATXAVONG	ATM/SAR/MET, Air Navigation Standards Division Officer, Department of Civil Aviation of Lao PDR	xayphone1991@gmail.com;
8	MALDIVES (1)	14	Mr. Ahmed Rasheed	Director Meteorology, Maldives Meteorological Service	ahmed.rasheed@met.gov.mv;
9	MALAYSIA (3)	15	Mr. Ahmad Tarmizi Bin Ahmad Zaman	Senior Manager Air Navigation Services Technical Division CAAM	tarmizi.zaman@caam.gov.my;
		16	Mr. Kamarul Rahmat Bin Muhammad Noor	Senior Executive Air Navigation Services and Aerodrome Standard Division CAAM	kamarulrmn@caam.gov.my ;
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	STATE/NAME		PARTICIPANT	TITLE/ORGANIZATION	E-MAIL
10	MONGOLIA (1)	18	Ms. Maasuren Dagva	Inspector of aviation meteorology, Civil Aviation Authority	maasuren@mcaa.gov.mn;
11	NEW ZEALAND (2)	19	Ms. Paula Acethorp	Chief Meteorological Officer, Civil Aviation Authority of New Zealand	paula.acethorp@caa.govt.nz;
		20	Ms. Nicole Ranger	Managery, Aviation Weather Services/VAAC Wellington, Meteorological Service of New Zealand	nicole.ranger@met-service.com;
12	PAKISTAN (2)	21	Mr. Zaheer Ahmed	Joint Director(ATS)	
		22	Mr. Naveed UI Hassan	Joint Director(ATS)	
13	PHILIPPINES (4)	23	Mr. Arnold Santamaria	Air Traffic Management Officer V, Civil Aviation Authority of the Philippines	arnoldsaint102@gmail.com;
		24	Mr. Jose V Festejo	Aviation Services Safety Inspector, Civil Aviation Authority of the Philippines	jadper_fr@yahoo.com;
		25	Mr. JOFERAND JOSEPH Y. TORREFRANCA	Division Chief III, ANPPDD, ANS	
		26	Mr. Melvin P. Tena,	Assistant Weather Services Chief, PAGASA	melvintena@gmail.com;
14	REPUBLIC OF KOREA (2)	27	Mr. Keuno Park	Public official, Aviation Meteorological Office of Korea Meteorological Administration, Republic of Korea	geuno95@gmail.com;
		28	Ms. Sinae PARK	Assistant Director, Aviation Meteorological Office, Republic of Korea	pas8520@korea.kr;;

MET SG/30
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STATE/NAME		PARTICIPANT		TITLE/ORGANIZATION	E-MAIL
15	SINGAPORE (4)	29	Ms. Ai Xian Bernice Koh	Senior Manager (CNS/MET Regulations), Civil Aviation Authority of Singapore (CAAS)	Bernice_koh@caa.s.gov.sg;
		30	Mr. Keng Oon CHIAM	Deputy Principal Meteorologist, Meteorological Service Singapore	chiam_keng_oon@nea.gov.sg;
		31	Ms. Shin Er Chua	Executive Meteorologist, National Environment Agency/Meteorological Service Singapore	chua_shin_er@nea.gov.sg;
		32	Mr. GOH Wee Poh	Head, Central Forecast Office, Forecast Operations Department, Meteorological Service Singapore	goh_wee_poh@nea.gov.sg;
16	SRI LANKA (1)	33	Mr. Tharaka Wickramathunga	Senior Civil Aviation Inspector, Civil Aviation Authority Sri Lanka	scaiamet@caa.lk;
17	THAILAND (16)	34	Mr. Ammar Nuwanna	Air Traffic Engineer, AEROTHAI, Aeronautical Radio of Thailand Ltd.	ammar.nu@aerothai.co.th;
		35	Ms. NARISSARA NARANGSRI	AERONAUTICAL INFORMATION MANAGER, AEROTHAI, Aeronautical Radio of Thailand Ltd.	comm.future@gmail.com;
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		37	Ms. Kornchanok Thapanathan	Executive Strategic Planning Officer (Engineering), Aeronautical Radio of Thailand Ltd.	kornchanok.th@aerothai.co.th;
		38	Ms. Natthaporn Lertsamranpinit	Computer Technical Officer, Thai Meteorological Department	natthaporn.le@gmail.com;

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Appendix A – List of Participants

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		39 Ms. Paweena Panikodom	Meteorologist, Thai Meteorological Department	pavna55@hotmail.com;
		40 Mr. PONGKHUN MANEESRI	Meteorologist, Thai Meteorological Department	pongkhun@gmail.com;
		41 Mr. Pongpob Mongkolpiyathana	Air Traffic Engineering Manager, AEROTHAI, Aeronautical Radio of Thailand Ltd.	pongpob.mo@aerorhai.co.th;
		42 Mr. Prinya Viyasilpa	Air Traffic Engineering Manager, AEROTHAI, Aeronautical Radio of Thailand Ltd.	prinya.vi@aerorhai.co.th;
		43 Mr. Rittikrit Garin	Senior Meteorologist, Thai Meteorological Department	rittikrit@hotmail.com;
		44 Mr. Somchai Yimsricharoenkit	ANS Senior Officer, Civil Aviation Authority of Thailand (CAAT)	somchai.y@caat.or.th;
		45 Mr. suttipong kornrapat	Senior Air Traffic System Engineer, Aeronautical Radio of Thailand (AEROTHAI), Bangkok, Thailand	suttipong.kr@aerorhai.co.th;
		46 Mr. Theerut Wunkhwan	Air Navigation Services Standards Officer, The Civil Aviation Authority of Thailand (CAAT)	theerut.w@caat.or.th;
		47 Ms. Vanatta Noipan	Head of Aeronautical Meteorology Standards Division, The Civil Aviation Authority of Thailand (CAAT)	vanatta.n@caat.or.th;
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Appendix A – List of Participants

STATE/NAME			PARTICIPANT	TITLE/ORGANIZATION	E-MAIL
		49	Mr. Wanchai Rattanasing	Aeronautical Information Manager, AEROTHAI, Aeronautical Radio of Thailand Ltd.	wanchai.ra@aerot hai.co.th;
18	UNITED KINGDOM (1)	50	Ms. Karen Shorey*	International Aviation and SADIS Manager Met Office, United Kingdom	
19	UNITED STATES OF AMERICA (3)	51	Mr. Shayne A. Campbell	Senior International Air Traffic Representative Asia Pacific, United States Federal Aviation Administration (FAA)	shayne.a.campbell @faa.gov;
		52	Mr. Mike Graf	Meteorologist, USA_National Weather Service	michael.graf@noa a.gov;
		53	Ms. Karen Shelton-Mur	Meteorologist/International Aviation Weather Program Lead, FAA	karen.shelton- mur@faa.gov;
20	VIET NAM (6)	54	Mr. Mai Manh Hung	Director, Air Navigation Services Department	hungmm@caa.gov .vn;
		55	Mr. Hoang Minh Toan	Principal Officer, Air Navigation Services Department	toanhm@caa.gov. vn;
		56	Mr. Nguyen Minh Tuan	Deputy Director – Aviation Meteorological Center (AMC)	tuannm@vatm.vn; tuanminh.lawyer @gmail.com ;
		57	Mr. Le Hong Hai	Deputy Manager – AMO Noi Bai - AMC	Jockingman1971 @gmail.com;

MET SG/30
Appendix A – List of Participants

STATE/NAME		PARTICIPANT		TITLE/ORGANIZATION	E-MAIL
		58	Ms. Vu Thi Thanh Tam	Aeronautical Meteorology Specialist, Air Traffic Management Division	vuthithanhtam86@gmail.com; tamvtt@vatm.vn;
		59	Ms. Nguyen Thi Hong Hanh	Aeronautical Meteorology Specialist, Safety and Quality Division	honghanh.hus@gmail.com;
21	ICAO (4)	60	Mr. Peter Dunda	Regional Officer MET/ENV, ICAO APAC Office	pdunda@icao.int;
		61	Mr. Manjunath Krishna Nelli*	Regional Officer, ATM, ICAO APAC Regional Sub Office	mnelli@icao.int;
		62	Ms. Xu Jian	ASSOCIATE PROGRAMME OFFICER, ICAO APAC	jixu@icao.int;
		63	Ms. Varapan Meefuengsart	PROGRAMME ASSISTANT (CNS/MET) ICAO APAC	vmeeфуengsart@icao.int;

* Online attendance

— END OF SECTION —

APPENDIX B

MET SG/30 – List of Papers

No.	Agenda Item	Subject	Presented by
Agenda Item 1: Organizational matters			
WP/01	1	Adoption of the Agenda	Secretariat
IP/01	1	Meeting Bulletin	Secretariat
Agenda Item 2: Review outcomes from previous meetings			
WP/02	2	Review Outcomes from MET SG/29 and APANPIRG/36	Secretariat
WP/03	2	Review Outcomes from MET/IE WG/24	MET/IE WG Chairs
WP/04	2	Review Outcomes from MET/R WG/15	MET/R WG Chair
WP/27	2	Progress on Adding the World Area Forecast System (WAFS) Internet File Service (WIFS) Data to the Annual SIGMET Test	United States of America
WP/28	2	Updating US International Collectives	United States of America
Agenda Item 3: Air navigation deficiencies			
WP/06	3	Review APANPIRG Air Navigation Deficiencies	Secretariat
WP/07	3	MET Deficiencies Review of the 2025 Annual SIGMET Test Outcomes and 2025 TAF and METAR APAC Performance Indices	Ad Hoc Group
WP/24	3	Investigation into Australian OPMET Results	Australia
WP/25	3	Improvement in IWXXM Translation for Philippine Aerodromes in Hong Kong OPMET Bulletin	Hong Kong, China
WP/31	3	Investigation into Singapore OPMET Results	Singapore
FL/04	3	Inclusion of IWXXM Form in the APAC ANP	Australia
Agenda Item 4: Regional guidance material			
WP/09	4	Robex handbook updates	Secretariat
WP/10	4	Updates to the robex handbook	Japan
WP/11	4	Updates to the robex handbook & anp	Australia
WP/12	4	Online metar/taf tables of robex handbook	Hong Kong, China
WP/13	4	Updates to asia/pacific (apac) regional sigmet guide	Ad Hoc Group
WP/14	4	Updates to the Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations	Ad Hoc Group
WP/23	4	Suggestions on the Issuance Time of Aerodrome Forecasts	China

MET SG/30
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No.	Agenda Item	Subject	Presented by
WP/26	4	Updates to the ROBEX Handbook	MET/IE WG Chairs
WP/29	4	Inconsistencies in TC SIGMET Future Position in PANS-MET	New Zealand
IP/15	4	Update MET-SWIM Documentation	Australia
FL/01	4	Updates to ROBEX Handbook and Air Navigation Plan (ANP)	Viet Nam
FL/03	4	Proposed Changes to the Regional APAC SIGMET Guide to Address WP/13	New Zealand
Agenda Item 5: Planning and monitoring			
WP/15	5	Asia/Pacific Air Navigation Plan Updates	Secretariat
WP/16	5	Proposed Improvements to the APAC ANP MET Information	New Zealand
WP/17	5	Update on VONA Distribution	New Zealand
WP/18	5	Latest Status of IWXXM	Hong Kong, China
WP/30	5	Update of APAC ANP Volume III	Secretariat
IP/03	5	Combined APAC VAAC Management Report	Australia, Japan, New Zealand and United States
IP/04	5	Consolidated Space Weather Information Service Management Report for 2025	Australia
Agenda Item 6: Turbulence Information			
WP/19	6	Proposal for Special Air-Reports Survey	New Zealand
IP/05	6	Hong Kong Observatory's Experiences on Collection, Dissemination and Utilisation of Aircraft Observations on Turbulence	Hong Kong, China
IP/06	6	Availability of Air-Reports from the United States	United States of America
IP/07	6	Progress on Aircraft EDR Data Sharing and Turbulence Forecasting in China	China
IP/08	6	Analysis of Aircraft Turbulence Characteristics in China Based on Airborne Data	China
Agenda Item 7: Aviation Exercises for Volcanic Ash and Meteorological Events			
IP/09	7	Plans for Papua New Guinea Volcanic Ash Exercise	New Zealand
Agenda Item 8: Research, Development and Other Initiatives			
WP/20	8	Hazardous Weather Information Service (HWIS) Southern Trial	Hong Kong, China
WP/21	8	SADIS, WIFS and WAFS Matters	WAFC London

MET SG/30
Appendix B – List of Papers

No.	Agenda Item	Subject	Presented by
IP/10	8	Meteorological Services in Support of Low-Altitude Economy Development	Hong Kong, China
IP/11	8	Aviation Impact-Based Forecast Service	Republic of Korea
IP/12	8	Fine-scale Wind Field Forecasting to Enhance Airport Operational Efficiency	China
IP/13	8	Development of a Tool for Quality Check of METAR and SPECI Reports	Philippines
IP/16	8	Organisation of a SWIM Training cum Workshop in August 2026	Secretariat
FL/02	8	Provision of Three-Hourly TAF for Three Major International Airports in Viet Nam	Viet Nam
Agenda Item 9: Environmental-Related Initiatives and Impacts			
IP/02	9	ICAO Environmental Protection and Air Navigation Planning Initiatives: Relevance to Aeronautical Meteorology	Secretariat
IP/14	9	Civil Aviation Meteorological Services for Environmental Protection in China	China
Agenda Item 10: Future Work Program			
WP/22	10	Review the Terms of Reference and Work Plan	Secretariat
Agenda Item 11: Any other business			
WP/08	11	Dates, Venue and Agenda for MET SG/31	Secretariat
SP/01	11	Outcomes of AI Survey	Secretariat
SP/02	11	Outcomes of the Survey to Measure the Implementation of the First Set of the ICAO APAC Gender Equality Indicator	Secretariat

Note: WP/05 was withdrawn

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MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

APPENDIX C

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MET SG/30 – Draft Conclusions, Draft Decisions, Conclusions and Decisions	1
MET SG/29 – Conclusions and Decisions (previously unresolved items)	5
MET SG/28 – Conclusions and Decisions (previously unresolved items)	8

MET SG/30 – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
Draft Conclusion MET SG/30-01	IWXXM Version Compatibility	That, States/Administrations are requested to ensure that MET service providers, air navigation service providers (ANSPs), airlines and other end users do the following: a) make the necessary system upgrades to support the IWXXM version 2025-2, which complies with the latest amendment to Annex 3 as stated in the IWXXM compatibility table*; and b) prepare for future system upgrades to support future IWXXM versions driven by further amendments to Annex 3. *Link to the IWXXM compatibility table: https://wmo.int/iwxxm [ICAO be requested to advise States/Administrations accordingly.]	Secretariat, MET SG Chairs, States/Administrations	APANPIRG/37, As soon as practicable	Draft to be adopted by APANPIRG
Draft Conclusion MET SG/30-02	Dissemination of IWXXM	That: a) APAC Regional OPMET Centres (ROCs) and Inter-Regional OPMET Gateways (IROGs), namely Bangkok, Brisbane, Colombo, Delhi, Karachi, Kolkata, Mumbai, Nadi, and Tokyo, expedite the implementation of network circuits and communication services necessary to enable the required regional global dissemination of meteorological information in the ICAO Meteorological Information Exchange Model (IWXXM) form including support for the Air Traffic Services Message Handling System (AMHS) with File Transfer Body Part (FTBP) and Interpersonal Message Heading Extension (IHE), and backup paths for redundancy purposes; and b) To support intra-regional exchange of IWXXM, the IROGs establish operational IWXXM exchange with IROGs in the ICAO AFI, MID, NAM and SAM Regions. c) States to inform ICAO of their plan, including timeframe, to implement the required capability and to advise when complete. [ICAO be requested to advise relevant States/Administrations accordingly.]	Secretariat, MET SG Chairs, APAC ROCs and IROGs, namely Bangkok, Brisbane, Colombo, Delhi, Karachi, Kolkata, Mumbai, Nadi, and Tokyo	APANPIRG/37, As soon as practicable	Draft to be adopted by APANPIRG

MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
Conclusion MET SG/30-03	Lack of Provision of IWXXM Format SIGMET	The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on the lack of IWXXM implementation for SIGMET issuance: Afghanistan, Bangladesh, DPR Korea, India, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Pakistan, Papua New Guinea, Sri Lanka, Viet Nam	Secretariat	With immediate effect	Adopted by Subgroup
Conclusion MET SG/30-04	Lack of Provision of IWXXM Format Advisories	The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on the lack of IWXXM implementation for advisory issuance: Volcanic ash advisory (VAA): United States, Tropical cyclone advisory (TCA): United States, India, Fiji, France	Secretariat	With immediate effect	Adopted by Subgroup
Conclusion MET SG/30-05	Potential Deficiencies in Provision of METAR and/or TAF	The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on aerodrome observations and/or forecasts that do not meet the required availability and/or timeliness standard for TAC and/or IWXXM OPMET provision during the monitoring period of 1-30 November 2025, and follow up with the relevant States on their latest status. For TAC and IWXXM OPMET provision: Bangladesh, Bhutan, China, Cook Islands, Fiji, India, Indonesia, Kiribati, Lao PDR, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, New Caledonia, Niue, Pakistan, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, United States, Vanuatu, Wallis and Futuna (France). For IWXXM OPMET provision only: Brunei Darussalam, Nepal, Republic of Korea, Viet Nam	Secretariat	With immediate effect	Adopted by Subgroup
Decision MET SG/30-06	Reporting of Performance Information in MET SG Papers	That performance information presented to the MET SG relating to the performance of States, aerodromes or meteorological services shall be based on a methodology agreed by the relevant APAC MET forum or, where such information relates to another State, be validated with the State concerned and supported by a transparent description of the methodology used.	Secretariat, MET SG Chairs	With immediate effect	Adopted by Subgroup
Decision MET SG/30-07	Updates to Regional SIGMET Guide	That ICAO adopt the updated APAC Regional SIGMET Guide (Thirteenth Edition), as proposed in WP/13, as regional guidance material, subject to incorporation of the amendments proposed by the APAC VAACs in FL/03 and agreed editorial refinements before final publication.	Secretariat	With immediate effect	Adopted by Subgroup

MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
Decision MET SG/30-08	Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations	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</i> .	Secretariat	As soon as practicable	Adopted by Subgroup
Decision MET SG/30-09	Updates to the APAC ROBEX Handbook	That the amendments contained in Appendices A to D of WP/09 be endorsed for incorporation into the Twentieth Edition (July 2026) of the APAC ROBEX Handbook, subject to editorial corrections identified during the meeting and any further amendments arising from subsequent papers considered under Agenda Item 4, and that the Secretariat update and publish the revised Handbook.	Secretariat	As soon as practicable	Adopted by Subgroup
Decision MET SG/30-10	Trial Implementation of Online Digital METAR/TAF Tables	That the MET SG support the development and trial implementation of online digital METAR/TAF bulletin tables associated with the APAC ROBEX Handbook, including the proposed change-management processes and arrangements for maintenance by the ICAO Secretariat with assistance from a limited number of designated expert editors.	Secretariat, MET SG Chairs	During the intersessional period following MET SG/30	Adopted by Subgroup
Draft Conclusion MET SG/30-11	Improvements to APAC ANP MET Information	That APANPIRG consider the proposed amendments to APAC ANP Volumes I and II contained in Appendices A, B and C to WP/16, including: • updates to Table MET II-2 relating to aerodrome meteorological service information; • updates to references concerning Volcanic Ash Advisory Centre (VAAC) service implementation information; and • relocation and enhancement of State Volcano Observatory (SVO) and Volcano Observatory Notice for Aviation (VONA) implementation information through the establishment of a new Table MET II-4, and request the ICAO Secretariat to initiate the established APAC ANP amendment process, including any necessary coordination with other ICAO Regions and subsequent ICAO consideration, as appropriate.	Secretariat, MET SG Chairs	APANPIRG/37	Draft to be adopted by APANPIRG
Draft Conclusion MET SG/30-12	Amendment of the APAC Air Navigation Plan (ANP) for the Provision of OPMET Information in IWXXM Form	That, to support the digital exchange of aeronautical meteorological information and facilitate consistent monitoring of regional implementation and air navigation deficiencies: a) the APAC ANP be amended to include the requirement for the provision of Operational Meteorological (OPMET) information in IWXXM form, as contained in Appendix G of the MET SG/30 Report; b) States and Administrations are informed of the amended APAC ANP; and c) the status of implementation be monitored through APANPIRG planning, reporting and air navigation deficiency management processes.	Secretariat	As soon as practicable	Draft to be adopted by APANPIRG

MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
Decision MET SG/30-13	Special Air-Report Survey Development	The APAC Regional Officer – Meteorology/Environment, supported by a small ad hoc group consisting of members of the MET Sub-group, refine the draft survey on special air-reports (as provided in Appendix A of MET SG/30 WP/19) and issue to APAC States by end of August 2026, for potential sharing of results at APANPIRG/37 in November 2026.	Secretariat, ad hoc group	31 Aug 2026	Adopted by Subgroup
Draft Decision MET SG/30-14	Revised MET SG Terms of Reference and Work Plan	That the revised Terms of Reference and Work Plan of the Asia/Pacific Meteorology Sub-Group (MET SG), as contained in Appendix E of the MET SG/30 Report, and included in the MET SG report to APANPIRG for further consideration, be endorsed by APANPIRG.	Secretariat, MET SG Chairs	APANPIRG/37	Draft to be adopted by APANPIRG

MET SG/29 – Conclusions and Decisions (previously unresolved items)(Note: **Agreed** updates are indicated with ~~strikethrough~~ and highlighted text)

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
Draft Conclusion MET SG/29/01	Publishing MET Seminar Presentation Recordings	That ICAO be requested to make available the MET Seminar presentation recordings.	Secretariat	As soon as practicable	ADOPTED [Ref: adoption of Conclusion APANPIRG/36/2]
Draft Conclusion MET SG/29/02	Management of obsolete planning and implementation guidance documents on the ICAO APAC Office website	ICAO take appropriate action to manage (clearly identified as obsolete or remove) the archive of obsolete and historic planning and implementation guidance documents on its website, including those related to MET and other AN fields.	Secretariat	As soon as practicable	ADOPTED [Ref: adoption of Conclusion APANPIRG/36/15]
Draft Conclusion MET SG/29/03	IWXXM update notification process	ICAO in coordination with WMO take appropriate action to initiate an IWXXM update notification process for all relevant stakeholders, including IWXXM consumers and system vendors.	Secretariat	As soon as practicable	ADOPTED [Ref: adoption of Conclusion APANPIRG/36/16]
Draft Conclusion MET SG/29/05	Sharing of Turbulence Reports with Meteorological Service Providers	States be urged to: a) In accordance with Annex 3, share special air-reports with meteorological service providers, including turbulence reports, to support enhanced forecasting and situational awareness; and b) Provide information on the number of special air-reports received each calendar year.	Secretariat States	As soon as practicable	ADOPTED [Ref: adoption of Conclusion APANPIRG/36/17]
Draft Conclusion MET SG/29/08	Establishment of a Group to Address Long-Standing Air Navigation Deficiencies	APANPIRG establish a multi-disciplinary group comprising experts from the ATM, AOP, and MET domains to propose practical and sustainable options for resolving long-standing air navigation deficiencies in the Asia/Pacific region.	Secretariat APANPIRG	18-Aug-25	IN PROGRESS [Ref: Report of APANPIRG/36, para. 3.5.21: Sub-Group Chairs and Secretariat to jointly propose practical, sustainable solutions to long-standing regional AN deficiencies]
Draft Conclusion MET SG/29/15	Enabling the use of QVA by airlines	State Aviation Authorities are requested to consider and plan for the use of quantitative volcanic ash concentration information (QVA).	Secretariat States	As soon as practicable	ADOPTED [Ref: adoption of Conclusion APANPIRG/36/18]
Conclusion MET SG/29/06	Lack of Provision of IWXXM Format SIGMET	The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in	Secretariat	18-Aug-25	IN PROGRESS

MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
		this paper on the lack of IWXXM implementation for SIGMET issuance: Afghanistan, Bangladesh, Cambodia, DPR Korea, India, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, Pakistan, Papua New Guinea, Republic of Korea, Sri Lanka, Viet Nam			
Conclusion MET SG/29/07	Lack of Provision of IWXXM Format Advisories	The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in this paper on the lack of IWXXM implementation for advisory issuance: Volcanic ash advisory (VAA): United States, France; Tropical cyclone advisory (TCA): Australia, United States, India, Fiji	Secretariat	18-Aug-25	IN PROGRESS
Decision MET SG/29/04	MET information elements of the APAC Seamless ANS Plan (ASAP)	That, the MET SG approves the publication of the mapping document (MET SG/29 WP/03, Appendix D) as an appendix to the APAC Seamless ANS Plan (ASAP)	Secretariat	As soon as practicable	IN PROGRESS [approved; pending publication with the ASAP]
Decision MET SG/29/09	Approval of Guidance for Updating APAC MET Documentation	That the “Guidance for Updating APAC MET Documentation” be approved for publication on the ICAO APAC eDocuments website, following incorporation of editorial improvements as suggested by the meeting.	Secretariat	18-Aug-25	COMPLETED
Decision MET SG/29/10	Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations	That, the MET SG approves the proposed updates i.e. include the example from Republic of Korea under Appendix 1 of the Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations.	Secretariat	As soon as practicable	COMPLETED
Decision MET SG/29/11	Updates to Regional SIGMET Guide	That, the MET SG approves the updates proposed under Appendix A of MET SG/29—WP/13, subject to editorial improvements agreed by the meeting, publish the 12th Edition of the APAC Regional SIGMET Guide and make the guide available on the ICAO APAC website.	Secretariat	August 2025	COMPLETED
Decision MET SG/29/12	Updating the APAC Use Cases for SWIM-based Meteorological Information Services Supporting ATFM	That, the MET SG approves the Second Edition of the APAC Use Cases for SWIM-based Meteorological Information Services Supporting ATFM, subject to editorial improvements agreed by the meeting, for publication on the ICAO APAC eDocument website (MET SG/29, WP/14, Attachment A).	Secretariat	22-Aug-25	IN PROGRESS [Ref: MET/R WG/15 WP/11. ACTION – MET/R WG/15-0]
Decision MET SG/29/13	Publication of 2021 Survey of State Meteorological Information Supporting Air Traffic Management Report	That, the MET SG approves the publication of the refined report '2021 Survey of State Meteorological Information Supporting Air Traffic Management' on the ICAO APAC eDocuments website	Secretariat	As soon as practicable	COMPLETED
Decision MET SG/29/14	MET Contributions to SWIM TF for MET SWIM Information	That, MET SG empowers an ad hoc group, consisting of Chairs of MET/IE WG, MET/R WG and MET SG, to develop and maintain	Secretariat MET SG	As soon as practicable	IN PROGRESS

MET SG/30
Appendix C – Draft Conclusions, Draft Decisions, Conclusions and Decisions

DC/DD/C/D No	Title of DC/DD/C/D	Text of DC/DD/C/D (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
	Services	meteorological components of the 'Business Functionality of APAC Common SWIM Information Services' for submission to SWIM TF.			

MET SG/28 – Conclusions and Decisions (previously unresolved items)(Note: **Agreed** updates are indicated with ~~strikethrough~~ and highlighted text)

Conclusion/ Decision No	Title of Conclusion/Decision	Text of Conclusion/Decision (What:)	Responsibility	Target Date	Status/ Remarks
(1)	(2)	(3)	(4)	(5)	(6)
C 28-03	Review of APAC Region IWXXM Implementation Status/ Readiness	States/Administrations provide ICAO an update on the status and readiness dates for the following: (a) AMHS with FTBP/IHE and configuration for single body part; (b) AMHS connection(s) will have sufficient capacity to support IWXXM exchange; (c) when operational IWXXM information will available; and (d) commencement of operational exchange of IWXXM with their Regional OPMET Centre (ROC), and where applicable their respective Inter-regional OPMET Gateway.	MET SG, APAC States and ICAO RO	31 December 2024	IN PROGRESS [Ref: Online Register of APAC IWXXM Exchange Status (https://www.icao.int/APAC/Pages/eDocs.aspx)]
D 28-04	Addition of MET/S WG actions to MET SG action list	The outstanding MET/S WG actions, MET/S WG/13-03 and MET/S WG/10-21, are to be added to the action list of the MET SG and progressed, as appropriate.	MET SG and ICAO RO	12-Jul-24	COMPLETED IN PROGRESS [Ref: MET/IE WG/23, WP/03, Appx. B]

— END OF SECTION —

MET SG/30
Appendix D – List of Actions

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MET SG/30 – List of Actions

MET SG/30 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
30-01	Coordination with ATM SG on volcanic activity information dissemination New Zealand, in coordination with Tonga and IATA, prepare information for consideration by the ATM SG regarding progress towards resolution of Tonga's volcanic activity information deficiency and the remaining issues associated with dissemination of VONA and related volcanic activity information to aviation users. 3.9. (WP/06)	New Zealand, in coordination with Tonga and IATA	ATM/SG/14	
30-02	Clarification of APANPIRG deficiency identification procedures The Secretariat seek clarification on the interpretation and application of APANPIRG deficiency identification procedures, including consistency of application between APANPIRG Sub-groups and, where appropriate, other ICAO regions, and report the outcome for further consideration by the MET SG and APANPIRG, as appropriate. 3.11. (WP/06)	Secretariat	APANPIRG/37	
30-03	Review of ROBEX and Performance Indices Coverage for Afghanistan and DPR Korea Review the dissemination of METAR and TAF information for Afghanistan and DPR Korea aerodrome meteorological services included in the APAC Air Navigation Plan, coordinate with the relevant authorities as necessary, and determine any updates required to the ROBEX Handbook and APAC Performance Indices activities to support monitoring of those locations.	Secretariat	MET SG/31	

MET SG/30
Appendix D – List of Actions

MET SG/30 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
	3.15. (WP/07)			
30-04	Publication and Distribution of APAC Regional SIGMET Guide (13th Edition) The Secretariat to finalize the Thirteenth Edition of the APAC Regional SIGMET Guide, incorporating the refinements proposed by the APAC VAACs and endorsed by MET SG/30, publish the updated Guide on the ICAO APAC website, notify States of its availability, and distribute the updated Guide and associated amendments to other ICAO Regional Offices. 4.7 (WP/13)	Secretariat	As soon as practicable after MET SG/30	
30-05	Publication of Updated ATM Meteorological Guidance The Secretariat to publish the updated Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations on the APAC eDocuments website. 4.13. (WP/14)	Secretariat	As soon as practicable after MET SG/30	
30-06	ICAO Meteorology Panel Coordination on TC SIGMET Guidance The New Zealand MET Panel Member to raise the identified inconsistency between the PANS-MET tropical cyclone SIGMET example and Note 26 to Table A7-5 with the ICAO Meteorology Panel, and provide an update to the next meeting of the MET SG. 4.20. (WP/29)	New Zealand MET Panel Member	MET SG/31	
30-07	Review of Guidance on Tropical Cyclone SIGMETs The Ad hoc Group on the APAC Regional SIGMET Guide to assess the benefits and limitations of using tropical cyclone movement or forecast position in TC SIGMETs, consider the use of separate SIGMETs for cumulonimbus clouds associated with tropical cyclones, and develop additional guidance and examples for inclusion in the APAC Regional SIGMET Guide, in coordination with the EUR SIGMET Guide Group as appropriate. 4.19. (WP/29)	Ad hoc Group on the APAC Regional SIGMET Guide	MET SG/31	
30-08	Update and Publish the Twentieth Edition of the APAC ROBEX Handbook The ICAO APAC Regional Office to incorporate all amendments endorsed and agreed for incorporation under Decision MET SG/30-xx by MET SG/30 under Agenda Item 4, including any associated editorial corrections identified during the meeting, into the Twentieth Edition (July 2026) of the APAC ROBEX Handbook and publish the revised edition. 4.26. (WP/09), 4.32. (WP/26), 4.43 (WP/10), 4.47. (WP/11), 4.51. (FL/01)	Secretariat	As soon as practicable following MET SG/30	
30-09	Implement Trial of Online Digital METAR/TAF Tables The ICAO Secretariat, in coordination with Hong Kong, China and relevant MET/IE WG experts, to establish and implement the trial online digital METAR/TAF tables, including hosting and publication arrangements, controlled editing access for a limited number of designated expert editors, and procedures for Secretariat verification and publication of updates, and to report the outcome of the trial to MET SG/31. 4.39. (WP/12)	Secretariat, Hong Kong, China, and designated MET/IE WG experts	MET SG/31	

MET SG/30
Appendix D – List of Actions

MET SG/30 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
30-10	Action Item MET SG/30-10 – Review and Refinement of MET Provisions in APAC ANP Volume III The Secretariat, taking into account the discussions, comments and feedback provided by MET SG/30, review and further refine the MET-related provisions of the draft APAC ANP Volume III, including ASBU elements, priorities, implementation targets, indicators, definitions and descriptions of expected MET services, products and capabilities. The refined provisions should be progressed through the MET/R WG work plan and submitted for further consideration by MET SG/31 and subsequent APANPIRG processes, as appropriate.	Secretariat, with support from MET/R WG and interested States/Administrations	MET SG/31	
30-11	Notification of IWXXM issue to ICAO HQ MET Secretariat The ICAO APAC Regional Office MET Secretariat to bring the issue concerning the provision of OPMET information in IWXXM form and its implications for air navigation deficiency identification to the attention of the ICAO HQ MET Secretariat. 5.30. (FL/04)	Secretariat	Before APANPIRG/37	
30-12	Notification of IWXXM issue to ICAO MET Panel Management Group The METP WG-MIE Chair to bring the issue concerning the provision of OPMET information in IWXXM form and its implications for air navigation deficiency identification to the attention of the ICAO MET Panel Management Group. 5.30 (FL/04)	METP WG-MIE Chair	Before the next MET Panel Management Group meeting	
30-13	Action Item MET SG/30-13 – Promote Awareness of the ICAO Space Weather Information Service The Secretariat, when sharing MET SG outcomes with relevant APANPIRG sub-groups and other ICAO bodies, raise awareness of the availability and operational value of ICAO space weather advisories and the Space Weather Information Service (SWIS), including guidance on access to the information through national COMMS Centres, in order to enhance user understanding and utilization of space weather information across the Asia/Pacific Region.	Secretariat	Before MET SG/31	
30-14	Comparison of AIREP Data Received by WAFC Washington and WAFC London Secretariat to invite United States to coordinate with WAFC London to compare AIREP data received and disseminated by WAFC Washington and WAFC London, identify any significant differences in reporting and dissemination, and report the findings to a future MET SG meeting. 6.13. (IP/06)	Secretariat, United States / WAFC Washington	MET SG/31	
30-15	Update of SADIS Focal Point Information The Secretariat to notify SADIS-using States in the Asia/Pacific Region to review their entries in the SADIS Focal Points document and provide updated contact information, or request deletion of obsolete records, to the SADIS Manager to support the updating of the ICAO SADIS Focal Points document. 8.24. (WP/21)	Secretariat, SADIS-user States	30 September 2026	
30-16	Preparation for Transition to SADIS API and WIFS API	Secretariat	November 2028	

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MET SG/30 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
	The Secretariat to remind SADIS and WIFS users in the Asia/Pacific Region of the planned retirement of the SADIS FTP and WIFS services in November 2028 and the need to transition to the SADIS API or WIFS API, and to encourage early preparation and migration activities. 8.25. (WP/21)			
30-17	Review Consistency Between MET SG and Working Group Terms of Reference The MET SG Chair and Working Group Chairs review the Terms of Reference of the MET SG Working Groups to ensure consistency and alignment with the revised MET SG Terms of Reference and Work Plan endorsed at MET SG/30. The review should identify any necessary amendments and provide recommendations for consideration by the relevant Working Group and MET SG meetings.	Secretariat, MET SG Chair and Working Group Chairs	Prior to MET SG/31, with progress reports to the MET/IE WG and MET/R WG	

MET SG/30
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MET SG/29 – List of Actions (previously unresolved action items)

(Note: Agreed updates are indicated with ~~strike through~~ and highlighted text)

MET SG/29 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
29/01	PfA APAC ANP Process the PfA in Flimsy/02, and incorporate updates from WP/12, WP/20, and WP/25 [Ref: MET SG/29 Report, para. 2.11 and Flimsy/02]	Secretariat	September 2025	COMPLETED [Ref: APAC.II.25/24-MET and APAC.II.25/25-MET]
29/02	Update MET-SWIM Docs Update ICAO APAC eDocuments to reflect MET-SWIM Roadmap (V3) and new MET-SWIM Implementation Guidelines [Ref: para. 2.39 and IP/02]	Secretariat	September 2025	COMPLETED
29/03	SIGMET Test Follow-up Identify advisory test messages not received to support targeted resolution [Ref: para. 3.10 and WP/07]	SIGMET-test focal points	MET/IE WG/24	IN PROGRESS
29/04	Share SIGMET Results Share SIGMET test results with relevant States [Ref: para. 3.12 and WP/07]	Secretariat	August 2025	IN PROGRESS
29/05	Publish MET Update Guide Publish “Guidance for Updating APAC MET Documentation” [Ref: MET SG/29 Report, para. 4.4 and WP/15]	Secretariat	September 2025	COMPLETED
29/06	Improve MET Update Guide Present proposals for further improvements to the guidance document [Ref: MET SG/29 Report, para. 4.5 and WP/15]	MET SG Chairs	MET SG/30	COMPLETED IN PROGRESS
29/07	ROBEX Update – Hong Kong Incorporate Hong Kong updates into ROBEX Handbook 18th Edition [Ref: MET SG/29 Report, para. 4.7 and WP/10]	Secretariat	September 2025	COMPLETED [Ref: ROBEX HB, 19 TH Ed]
29/08	ROBEX Update – Japan Incorporate Japan’s updates into APAC ANP and ROBEX Handbook [Ref: MET SG/29 Report, para. 4.10 and WP/12]	Secretariat	September 2025	COMPLETED [Ref: APAC.II.25/25-MET; ROBEX HB, 19 TH Ed]
29/09	Process ANP PfAs Process well-formed ANP PfAs received in time for next amendment [Ref: MET SG/29 Report, para. 4.11 and WP/12]	Secretariat	September 2025	COMPLETED [Ref: APAC.II.25/25-MET]
29/10	IWXXM Validity Time Inform States how IWXXM monitoring handles 24:00Z validity time [Ref: MET SG/29 Report, para. 4.15.1 and WP/16]	Secretariat	September 2025	IN PROGRESS

MET SG/30
Appendix D – List of Actions

MET SG/29 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
29/11	METAR Timeliness Clarification Seek clarification on EUR Region's METAR timeliness definitions [Ref: MET SG/29 Report, para. 4.15.2 and WP/16]	MET/IE WG Chair	MET/IE WG/24	CLOSED IN PROGRESS
29/12	NZ Aerodrome Updates Include NZOH, NZDN, NZHN updates in ROBEX Handbook [Ref: MET SG/29 Report, para. 4.18 and WP/17]	Secretariat	October 2025	COMPLETED [Ref: ROBEX HB, 19 TH Ed]
29/13	US Aerodrome Inclusion Include US aerodromes in ROBEX Handbook and coordinate routing gaps [Ref: MET SG/29 Report, para. 4.21 and IP/28]	Secretariat	September 2025	COMPLETED [Ref: ROBEX HB, 19 TH Ed]
29/14	Tailored MET Guidance Publish updated Regional Guidance for Tailored MET Information and Services [Ref: MET SG/29 Report, para. 4.24 and WP/11]	Secretariat	September 2025	COMPLETED
29/15	SIGMET Guide Update Publish 12th Edition of APAC Regional SIGMET Guide [Ref: MET SG/29 Report, para. 4.28 and WP/13]	Secretariat	November 2025	COMPLETED
29/16	SWIM Use Cases Update Publish Second Edition of APAC Use Cases for SWIM-based MET Services [Ref: MET SG/29 Report, para. 4.33 and WP/14]	Secretariat	September 2025	IN PROGRESS [Ref: MET/R WG/15 WP/11]
29/17	MET/ATM Survey Report Publish refined 2021 MET/ATM Survey Report [Ref: MET SG/29 Report, para. 5.3 and WP/26]	Secretariat	September 2025	COMPLETED
29/18	VOLMET Update – Thailand Incorporate Thailand's VOLMET updates into APAC ANP [Ref: MET SG/29 Report, para. 5.6 and WP/20]	Secretariat	September 2025	COMPLETED [Ref: APAC.II.25/25-MET]
29/19	VDTI Integration Incorporate VDTI updates into APAC ANP and ROBEX Handbook [Ref: MET SG/29 Report, para. 5.9 and WP/25]	Secretariat	September 2025	COMPLETED [Ref: APAC.II.25/25-MET; ROBEX HB, 19 TH Ed]
29/20	ROBEX HB Bulletin Review Coordinate review of multiple ROBEX Handbook (TAF/METAR) bulletins for aerodromes [Ref: MET SG/29 Report, para. 5.16 and IP/06]	MET/IE WG	MET/IE WG/24	IN PROGRESS
29/21	VONA Dissemination Investigate VONA dissemination methods for global accessibility [Ref: MET SG/29 Report, para. 5.23 and WP/21]	Ad hoc group (NZ, AU, US)	November 2025	IN PROGRESS [Ref: MET/IE WG/24 WP/14]

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MET SG/29 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
29/22	VONA Guide Update Provide finalized VONA updates to SIGMET Guide ad hoc group [Ref: MET SG/29 Report, para. 5.24 and WP/21]	Secretariat	November 2025	COMPLETED [Ref: SIGMET Guide 12 th -Ed] Note: to be published
29/23	VONA Colour Code Guidance Seek METP guidance on green aviation colour code VONA issuance [Ref: MET SG/29 Report, para. 5.28 and IP/07]	METP members	MET/IE WG/24	IN PROGRESS METP MOG IAVW is working on this guidance in the IAVW Handbook updates
29/24	VONA Input System (VIS) Expansion Explore expansion of VIS access beyond PSIDS [Ref: MET SG/29 Report, para. 5.33 and IP/15]	New Zealand	MET SG/30	CLOSED IN PROGRESS
29/25	VAAC Washington Inclusion Invite VAAC Washington to contribute to future VAAC reports [Ref: MET SG/29 Report, para. 5.37 and IP/08]	Secretariat	MET SG/30	COMPLETED IN PROGRESS
29/26	Amendment 82 Webinar Organize webinar on Amendment 82 and PANS-MET updates [Ref: MET SG/29 Report, para. 5.48 and IP/29]	Secretariat	Oct–Nov 2025	CLOSED ICAO APAC Workshop: Supporting State Implementation of Meteorological Services, Nadi, Fiji – 20 April 2026 IN PROGRESS
29/27	IWXXM Schema Clarification Seek ICAO/WMO clarification on APAC-specific IWXXM schema implementation [Ref: MET SG/29 Report, para. 6.5 and WP/24]	Secretariat	MET SG/30	IN PROGRESS
29/28	SWX Exercise Collaboration Engage ATM/SG to explore regional space weather exercise collaboration [Ref: MET SG/29 Report, para. 6.11 and IP/22]	Secretariat	MET SG/30	IN PROGRESS
29/29	QVA Workshop Summary Publish QVA Workshop Summary link on ICAO APAC eDocuments [Ref: MET SG/29 Report, para. 6.18 and IP/21]	Secretariat	November 2025	COMPLETED
29/30	QVA Rollout Proposal Prepare proposal for informing States about QVA service rollout [Ref: MET SG/29 Report, para. 6.47 and IP/20]	Chair and Secretariat	MET SG/30	IN PROGRESS

MET SG/30
Appendix D – List of Actions

MET SG/28 – List of Actions (previously unresolved action items)

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

MET SG/28 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
28/01	Revise information in WP/02 to update the lapsed target dates for uncompleted actions in the MET SG List of Actions and indicate the follow-up status on the relevant APANPIRG and MET SG Conclusions and Decisions. [Ref: Report of MET SG/28, para. 2.8.]	Secretariat	MET SG/28 final report	IN PROGRESS [Ref: MET/IE WG/23-WP/03]
28/03	Close (former) MET/S WG actions no. MET/S WG/13-01 and MET/S WG/11-01 and retain the actions no. MET/S WG/13-03 and MET/S WG/10-21 for follow-up by the MET SG. [Ref: Report of MET SG/28, para. 2.50.] [Ref: Decision MET SG/28-043]	Secretariat	MET SG/28 final report	CLOSED IN PROGRESS [Ref: MET/IE WG/23-WP/03]
28/04	Prepare the necessary documentation based on the results in Attachment A of WP/06 for APANPIRG to make a detailed assessment of the shortcomings and deficiencies related to SIGMET service in Afghanistan. [Ref: Report of MET SG/28, para. 3.9.] [Ref: Report of MET SG/29, para. 2.6.]	Secretariat, with support from the ad hoc group on deficiencies	APANPIRG/36	IN PROGRESS
28/05	Forward the identified issues and proposed corrective actions (from Attachment A and B of WP/06) for consideration by the States concerned. [Ref: Report of MET SG/28, para. 3.14.] [Ref: Report of MET SG/29, para. 2.6.]	Secretariat	MET SG/28 final report	SUPERSEDED IN PROGRESS
28/07	Propose appropriate updates to the SIGMET test procedures to better incorporate the IROG functionality into the annual SIGMET test analysis. [Ref: Report of MET SG/28, para. 3.16.]	Ad hoc group on SIGMET Guide	Aug 2024 – for 2024 APAC SIGMET tests	IN PROGRESS
28/14	Consolidate the SIGMET issuance practices, as shown in Appendix A of WP/12, for potential inclusion in the guidelines on SIGMET Coordination to supplement the Asia/Pacific SIGMET Guide. [Ref: Report of MET SG/28, para. 4.14.]	Ad hoc group on SIGMET coordination	MET/R WG/14	IN PROGRESS
28/18	Facilitate a discussion on the role of MET in the ANS seamless plan, noting that the MET inclusions in the ANS seamless plan did not appear to reflect requirements for en-route meteorological information. [Ref: Report of MET SG/28, para. 4.32.] [Ref: Report of MET SG/29, para. 2.6]	Secretariat	ATM/SG/13	IN PROGRESS COMPLETED [Ref: ATM/SG/13 WP/48 and Report of ATM/SG/13 para. 7.21]
28/21	Incorporate the aerodrome meteorological service requirements as reflected by the information in IP/02, the proposed amendments as presented in Appendices A and B of WP/16, and the change from 24- to 30-hour validity TAF as presented in IP/03, into the next proposal for amendment of the APAC ANP Volume II Tables MET II-2 and MET II-3. [Ref: Report of MET SG/28, para. 5.2., 5.4., 5.5. and 5.9.]	Secretariat	Sep 2025	IN PROGRESS COMPLETED [Ref: APAC.II.25/25-MET]

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MET SG/28 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
	[Ref: Report of MET SG/29, para. 2.6.; Ref: MET SG/29, Flimsy2]			
28/22	Incorporate the specific information related to United States State Volcano Observatories as presented in para. 2.2 of WP/17 in the latest proposal for amendment of the APAC ANP Vol I, Table MET I-1. [Ref: Report of MET SG/28, para. 5.11.] [Ref: Report of MET SG/29, para. 2.6.; Ref: MET SG/29, Flimsy2]	Secretariat	Sep 2025	IN PROGRESS COMPLETED [Ref: APAC.I.25/24-MET]
28/24	Review and report on the outcomes and lessons learned from <i>2021 ICAO APAC Regional Survey on the provision of MET services to support ATM and ATFM</i> ; including tangible actions that have or will be done based on the results of the survey, to assist the MET SG with identifying whether there would be value in conducting another survey. [Ref: Report of MET SG/28, para. 5.14.] [Ref: Report of MET SG/29, para. 2.6.]	MET/R WG	MET SG/29	IN PROGRESS [Ref: ATM/SG/13 IP/11, MET/R WG/15 WP/10 and Decision MET/R WG 15-02]
28/25	Present a paper to the ATM/SG informing the ATM community of the <i>Report on 2021 ICAO APAC Regional Survey on the provision of MET services to support ATM and ATFM</i> that was presented to ATFM/SG/14 and summarising the main outcomes from the report. [Ref: Report of MET SG/28, para. 5.15.] [Ref: Report of MET SG/29, para. 2.6.]	Secretariat, with support from the MET/R WG Chair	ATM/SG/13	IN PROGRESS COMPLETED [Ref: ATM/SG/13 IP/11]
28/27	Inform and discuss with other APANPIRG Sub-Groups such as AOP SG and ATM/SG about the issue of earthquake and tsunami as a potential hazard to aviation, as presented in WP/19, and refer any outcomes back to the MET SG [ACTION 27]. [Ref: Report of MET SG/28, para. 6.15.]	Secretariat	AOP SG/08 and ATM/SG/12	IN PROGRESS [Ref: AOP/SG/8-WP/27; and AOP/SG/8 Report, 9.9-9.15; and ATM/SG/13 WP/48 and Report of ATM/SG/13 para. 7.22]
28/28	Seek more user groups (e.g., IATA, etc.) involvement in the activities of the MET SG, including future MET Seminars. [Ref: Report of MET SG/28, para. 8.4.] [Ref: Report of MET SG/29, para. 2.6.]	Secretariat	MET SG/30	IN PROGRESS
28/29	Expand the agenda for MET SG/29 to include MET exercises, possibly as a sub-item under agenda item 6 or 4, and a new agenda item on environmental-related matters relevant to the MET SG. [Ref: Report of MET SG/28, para. 8.5.] [Ref: Report of MET SG/29, para. 2.6.]	Secretariat and Chair	MET SG/30	COMPLETED IN PROGRESS
28/30	Upload the Seminar presentation recordings and slides, the Q&A, and the feedback summary on the meeting website, and share the Seminar material with the other APANPIRG Subgroups.	Secretariat	As soon as possible	IN PROGRESS

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Appendix D – List of Actions

MET SG/28 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
	[Ref: Report of MET SG/28, para. 8.6.]			

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MET SG/27 – List of Actions (previously unresolved action items)

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

MET SG/27 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
27/02	Updates to the ICAO APAC ROBEX Handbook: 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.] Ref: MET/IE WG22, WP/19 Ref: MET/R WG/13 Report, para. 2.09., and MET/R WG/13 action item 03 https://www.icao.int/APAC/Documents/edocs/2024-04_APAC-ROBEX-HB_16TH-ED.pdf	Secretariat	MET SG/29	IN PROGRESS [Updates completed from MET SG/27-WP/09, Appx. A] COMPLETED [Ref: ROBEX HB, 19TH Ed]
27/05	Document of cases of SIGMET coordination: 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.] Ref: MET/R WG/13 Report, para. 2.10., and MET/R WG/13 WP/09 – SIGMET coordination common practices and guidelines	Ad hoc group	MET/R WG/14	IN PROGRESS
27/09	Siem Reap Angkor International Airport (VDSA) – METNO process: Notify the update to the ROBEX system by following the METNO process. [Ref: Report of MET SG/27, para. 5.3.]	Responsible NOC	MET SG/29	COMPLETED TO COMMENCE
27/10	Proposal for amendment of the APAC Air Navigation Plan: Compile a proposal for amendment and 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.] [Ref: Report of MET SG/29, para. 2.6.; MET SG/29, Flimsy2]	Secretariat	Sep 2025	IN PROGRESS COMPLETED [Ref: APAC.I.25/24-MET and APAC.II.25/25-MET]
27/11	MET deficiencies review of 2022 SIGMET test: 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	MET SG/29	SUPERSEDED TO COMMENCE
27/12	Proposed amendment to ICAO Annex 3: 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	MET SG/29	SUPERSEDED TO COMMENCE

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MET SG/26 – List of Actions (previously unresolved action items)

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

MET SG/26 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
26/04	APANPIRG AN Deficiencies – requirements for WAFS forecasts: 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	MET SG/29	COMPLETED Through PLAWS Panel IN PROGRESS
26/07	APAC ANP, Volume III amendment – examples from other ICAO Regions: 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	MET SG/29	IN PROGRESS
26/08	APAC ANP, Volume II amendment – Nepal: 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 [Ref: Report of MET SG/29, para. 2.6.; MET SG/29, Flimsy2]	Secretariat and Nepal	Sep 2025	IN PROGRESS COMPLETED [Ref: APAC.II.25/25-MET]

MET SG/30
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MET SG/25 – List of Actions (previously unresolved action items)

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

MET SG/25 – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
25/06	Finalise the proposals for amendment of the APAC ANP (Vol I and II) and ROBEX Handbook 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 [Ref: Report of MET SG/29, para. 2.6.; MET SG/29, Flimsy2]	Secretariat	Sep 2025	IN PROGRESS COMPLETED [Ref: APAC.II.25/25-MET; ROBEX HB, 19TH Ed]
25/07	Finalise a proposal for amendment of the APAC ANP (Table MET II-1) and consequential amendment to the APAC Regional SIGMET Guide 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: https://www.icao.int/APAC/Pages/eDocs.aspx	Secretariat	Sep 2025	IN PROGRESS ANP amendment pending; SIGMET Guide amended, 9th Ed. COMPLETED [Ref: APAC.II.25/25-MET]
25/09	Review SIGMET Guide 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.]	Ad hoc group	MET SG/29	COMPLETED TO COMMENCE
25/13	Coordinate possible SWX advisory exercise/s and training workshop/s 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 SG/29	IN PROGRESS Note: 2027 SWX Workshop being planned

MET SG/30
Appendix D – List of Actions

(Former) MET/S WG – List of Actions (previously unresolved action items)

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

(Former) MET/S WG – LIST OF ACTIONS				
Action No.	Detailed description of actions	Responsibility	Target date	Status
MET/S WG/13-03	Share information on the update of the IAVW Handbook (due to be published in approx. 3 months) which would realign the guidance on exercise messages with Annex 3.	Secretariat	MET SG/29	COMPLETED Outstanding – IAVW Handbook yet to be published.
MET/S WG/10-21	ANP updates – State Volcano Observatories: Designate an ad-hoc group consisting of the Secretariat and members from the VAACs and RODBs to identify the APAC States with active or potential active volcanoes, which do not have a designated State volcano observatory listed in the APAC ANP, Vol I, Table MET I-1; conduct the necessary coordination to facilitate the States concerned with the designation of a State volcano observatory and listing it in the APAC ANP; coordinate the action above with the development of a comprehensive proposal for amendment of the ANP to reflect APAC States' current requirements for State volcano observatories [Ref: Report of MET/S WG/10, para. 4.17., 8.3. and 8.4.] [Ref: Report of MET SG/29, para. 2.6.; MET SG/29, Flimsy2]	MET/S WG and Secretariat	Sep 2025	IN PROGRESS First part of action complete, second part of action remains outstanding. COMPLETED [Ref: APAC.I.25/24-MET]

— END OF SECTION —

APPENDIX E

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MET SG – TERMS OF REFERENCE

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

METEOROLOGY SUB-GROUP (MET SG)

1. Objectives of the MET SG

- a) Ensure the continuous and coherent development of the MET parts of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO standards and recommended practices (SARPs), the Global Air Navigation Plan and the Global Aviation Safety Plan and reflects global requirements;
- b) Facilitate the implementation of aeronautical meteorological systems and services, as identified in the APAC ANP, ~~Aviation System Block Upgrade (ASBU) priority modules and Asia/Pacific Seamless ANS Plan elements~~ and Annex 3 SARPs, with due observance to the primacy of air safety, regularity and efficiency; and
- c) Identify and address specific air navigation deficiencies in the field of aeronautical meteorological (MET) services.
- d) Promote the continuous improvement and modernization of aeronautical meteorological services in the APAC region through regional coordination, research, exercises, knowledge sharing, guidance material, technological innovation, and environmental initiatives.

2. Functions of the MET SG:

- a) Review MET parts of the APAC ANP, prepare amendment proposals as necessary to reflect updates and changes in the operational and global requirements;
- b) Monitor the level of and, as necessary, facilitate the implementation of aeronautical meteorological services to support the effective implementation of ~~ASBU priority modules and the Asia/Pacific Seamless ANS Plan elements~~ Annex 3 SARPs;
- c) Identify potential air navigation deficiencies in the field of aeronautical meteorology to the Regional Office, e.g., through systems performance monitoring. Where necessary, ~~propose appropriate corrective action and facilitate support~~ the development and implementation of corrective action plans by States to resolve identified deficiencies;
- d) Review and update the APANPIRG list of air navigation deficiencies in the field of

aeronautical meteorology, as necessary, to reflect the current situation;

- e) Monitor research and development and trials, exercises and demonstrations in the field of aeronautical meteorology and other relevant areas and facilitate the transfer of this information and expertise, as necessary, between States;
- f) Develop and maintain guidance materials, ~~and~~ conduct seminars, workshops and other capacity-building activities aimed at improving aeronautical meteorological services through the use of existing and/or new procedures, facilities and technologies;
- g) ~~Share information~~ ~~Develop education materials~~ to assist States in implementing aeronautical meteorological services.
- h) Promote new Annex 3 provisions and related guidance materials
- i) Review and identify inter-regional and intra-regional coordination issues in the field of aeronautical meteorology and, as necessary, recommend actions to address those issues; and
- j) Share aeronautical meteorological initiatives being undertaken to support environmental protection through reducing ~~reduce~~ the environmental impact of aviation operations.
- k) Share information on the impacts of climate change on aviation operations.
- l) Promote collaboration between meteorological service providers, ANSPs and other stakeholders to support the effective implementation and continuous improvement of meteorological information and services, taking into account user needs.

3. Establishment of the MET SG

3.1. The Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) established the MET SG to assist in its planning and implementation work, charging MET SG with preparatory work on specifically defined problems in the field of aeronautical meteorology requiring expert advice for their resolution. APANPIRG also appointed MET SG as the ‘parent’ group for other contributory bodies working in the field of aeronautical meteorology for APANPIRG.

4. Membership of the MET SG

4.1. Membership of the MET SG comprises experts provided by States, whether Members or not of the APANPIRG, International Organizations and bodies having experience in the provision of aeronautical meteorological information and services.

5. Chairing and Secretary of the MET SG

5.1. The MET SG shall elect a Chairperson, and Vice-Chairperson if needed, from the experts provided by States. The maximum term of the Chairperson and Vice Chairperson is four years. The Secretary of APANPIRG will appoint the Secretary of the MET SG.

6. Meetings of the MET SG

6.1. The Chairperson of the MET SG, in consultation with Members and the Secretary, shall decide the date and duration of Meetings. As a rule, the MET SG should agree, at each Meeting, on the date and duration of the next Meeting and on a tentative schedule of future Meetings.

7. Documentation and Record of Meetings of the MET SG

7.1. The MET SG shall record the proceedings of its Meetings in the form of a Report or a Summary and submit the Report or Summary for review and consideration by APANPIRG. A Meeting Report should cover completed action on any part of the MET SG work plan and outline the needs of MET SG for further directives or guidance from the APANPIRG to proceed in its work. Reports on Meetings shall be of a simple layout and as concise as practicable and should normally cover:

- a) Short introduction;
- b) Summary of findings (presented in the order of discussion of the agenda items, including any proposals for action); and
- c) Work plan and schedule for future Meetings.

7.2. The Secretary should publish the Report as early as practicable (21-days) after the Meeting.

7.3. The Secretary should disseminate the meeting invitation as early as practicable, i.e., not less than 3-months before the Meeting, and reminders for submission of papers approx. 6-weeks and 1-week before the due date for submission of papers.

7.4. Contributors should submit papers to the ICAO Secretariat as early as practicable, i.e., 28-days before the Meeting at which they are intended to be considered. The Secretary should publish papers, and send a notification of their availability, as early as practicable, i.e., 14-days before the Meeting at which they are intended to be considered.

7.5. The Secretary, in consultation with the Chairperson, may decide to accept papers submitted less than 28-days before the Meeting at which they are intended to be considered when there is a clear benefit to the Meeting in doing so.

8. Delegated authority of the MET SG

8.1. The MET SG may propose actions for further consideration by APANPIRG and record these in the MET SG Report as either draft Conclusions or draft Decisions of APANPIRG.

8.2. Additionally, APANPIRG has empowered MET SG to adopt proposals for action on technical matters (especially those concerning guidance to States in the implementation of ICAO SARPs and global and regional plans) that do not have additional economic, environmental, inter-regional or political effects, which should be considered by APANPIRG. The MET SG shall record these in its Meeting Report as Conclusions or Decisions of MET SG.

MET SG – WORK PLAN

METEOROLOGY SUB-GROUP (MET SG)

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

ToR Ref*	Detailed description of deliverable	Responsibility	Target date	Status of progress
a)	Draft amendment proposal for APAC ANP to fulfil missing data in Tables MET.	Secretariat	As required	In progress
a)	Contribute to APANPIRG activities related to the update of APAC ANP Volume III, including the review of MET-related implementation planning guidance, monitoring arrangements and supporting material. Draft amendment proposal for APAC ANP to clarify the MET related implementation planning guidance in the ANRF and other parts of Volume III.	MET SG MET/R WG MET/IE WG with guidance from Secretariat	As required MET SG/29	In progress
b)	Revised draft regional guidance material on MET information needed to support the elements of the APAC Seamless ANS Plan.	MET/R WG (Deliverable 2)	As required	Delivered
b) c) i) h)	Promote aviation exercise outcomes of significance to MET SG, create or update as required guidance material for developing aviation exercises for meteorological events, provide expert support to exercise leaders as appropriate.	MET SG	As required	In progress
c) d)	Monitor the regional implementation of meteorological observations, forecasts, warnings, and advisories, to identify potential deficiencies in the MET field.	MET SG Chair, Secretariat	Annually	In progress
c) d)	Investigate , and promote practical implement as appropriate , options to assist States in resolving air navigation AN deficiencies in the MET field, with particular attention to long-standing deficiencies.	MET SG	Annually	In progress
b) e)	Monitor and report on Report on the Progress of implementation and testing of IWXXM-based meteorological information exchange and related regional interoperability issues.	MET/IE WG (Activity 7)	Annually	In progress
g)	Share information on the implementation of ICAO provisions related to meteorological authority and quality assurance, cost recovery, competency, training and qualifications for meteorological service provisions shared with States.	MET SG Chair , Secretariat	Annually	In progress
i) h) l)	Maintain and update guidance related to meteorological information and services supporting Analysis of MET information used in the Region specifically to support ATM operations, including ATFM and SWIM-enabled information services.	MET/R WG (Deliverables 4 3 and 6)	As required MET SG/29	In progress
l)	Promote MET–ATM collaboration activities and identify opportunities to improve alignment between MET services and operational user requirements.	MET SG, MET/R WG	Annually	In progress
h) j) k)	Share aviation meteorological initiatives being undertaken to support environmental protection , reduce the environmental impact of aviation operations and share information on the impacts of climate change on aviation operations.	MET SG Chair, Secretariat	Annually	In progress
e) f) g) h) i)	SIGMET coordination activities in APAC Region Coordinate on the next steps to p Promote integration and expansion of SIGMET coordination activities among States/Administrations.	MET/R WG (Deliverable 9)	As required MET SG/29	In progress

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Appendix E – Terms of Reference and Work Plan

ToR Ref*	Detailed description of deliverable	Responsibility	Target date	Status of progress
f)	Develop User Requirements for SWIM-based MET Information Services.	MET/R WG (Deliverable 6)	As required MET SG/29	In progress
f)	Develop technical requirements and support the Region's implementation of SWIM-based MET Information Services.	MET/IE WG	As required	In progress
e) f) g)	Conduct Support seminars, trials and exercises to improve knowledge and to assist States implementation of new MET service.	MET SG MET/R WG MET/IE WG	Annually	In progress
f) g)	Develop or improve regional guidance material related to the implementation of aviation meteorological services, including input to the Regional SIGMET Guide.	MET SG MET/R WG MET/IE WG	Annually	In progress
f) g)	Support capacity-building activities related to ICAO MET provisions, including support for PSIDS where appropriate.	Secretariat, MET SG, MET/R WG, MET/IE WG	Annually	In progress

* Corresponding functions of the MET SG, as listed in the *Terms of Reference of the MET SG* (Ref: APANPIRG Procedural Handbook, Sixth Edition — 1 June 2020, A/L No 01)

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Appendix E – Terms of Reference and Work Plan

MET/R WG – TERMS OF REFERENCE

METEOROLOGICAL REQUIREMENTS WORKING GROUP (MET/R WG)

(Note: **Endorsed** updates are indicated with ~~strike through~~ and **highlighted text**)

DESCRIPTION	
Name and establishment of the group	The Meteorological Requirements Working Group (MET/R WG) was established by the Meteorology Sub-group (MET SG) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) [MET SG/19, Decision 19/2 refers].
Administrative arrangements	The membership and appointment of members, chairing, frequency of meetings and quorum, and recording of meetings shall be determined and conducted following the working arrangements and instructions provided in the APANPIRG Procedural Handbook.
Reporting mechanism	The MET/R WG shall report its work progress and coordination requirements to the MET SG, generally in a report to the MET SG meeting presented by the chairperson of the MET/R WG. The MET/R WG may also provide reports to other relevant bodies as necessary (e.g., contributory bodies of APANPIRG) with assistance from the ICAO Secretariat.
Objective	Improve safety, efficiency, and sustainability resilience and environmental sustainability of air traffic management (ATM ¹) operations and other aeronautical activities by providing meteorological (MET) information enabling the provision and effective use of fit-for-purpose, interoperable meteorological (MET) information services, including data-centric services, needed to meet current and future requirements of the ATM system, including trajectory-based operations, collaborative ATFM and SWIM-enabled environments, and all MET service users.
Benefits	Increase safety – optimize safety risk management Increase efficiency – save time and fuel Increase sustainability – reduce carbon emissions
Functions and delegated authority	Under guidance from the ICAO Secretariat, support the MET SG to assist APANPIRG in its planning and implementation work by carrying out designated tasks on specifically defined problems, taking into account the needs of all MET service users, including those identified in ICAO Annex 3, paragraph 2.1.2, and not limited to ATM stakeholders, including: a) a) Coordinate systematically and proactively with other relevant contributory bodies of APANPIRG, in particular ATM/SG and ATFM & A-CDM/SG, to ensure early and continuous alignment of MET information services with ATM and ATFM operational requirements, including through agreed operational use cases and implementation priorities. b) e) Promote coordination mutual understanding and effective collaboration between the MET and ATM communities in the Asia/Pacific Region to enhance the level of understanding of MET requirements, including awareness of MET capabilities, limitations and constraints, in to support informed planning and use of MET information in of ATM operations. c) Identify, document and promote MET contributions to ATM and ATFM operational decision-making, including support for predictability, uncertainty management, confidence indicators and impact-based decision support, to improve operational outcomes and performance. d) e) Facilitate the exchange of expertise in the Asia/Pacific Region on the integration of MET information, including data-centric and service-oriented MET information, into ATM systems to support collaborative decision making (CDM), increasing levels of automation, and the migration of MET information into the SWIM environment. e) b) Recommend updates to the Asia/Pacific Regional Air Navigation Plan and other regional guidance material as necessary, based on analysis and evaluation of the current and future requirements for MET information in support of ATM, as well as ATM information required to support the provision of MET services. d) Facilitate the monitoring and implementation of the sub-regional exchange of MET information (including in digital format) and associated inter-agency agreements that support the integration of MET information in ATM operations in line with the priorities defined in the ASIA/PAC Seamless ATM Plan; f) g) Report to the MET SG for further coordination through the ICAO Secretariat with APANPIRG and other relevant bodies.
Membership	Membership should, where practicable, ensure balanced representation of MET service providers, ATM and ATFM operational experts, system and SWIM specialists, and airspace user perspectives.

¹ ATM: the dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions [ICAO Doc 4444, PANS ATM]

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Appendix E – Terms of Reference and Work Plan

MEMBERSHIP		
State/Organization Name	Position/organization (field of expertise)	Contact
AUSTRALIA Mr. Ashwin NAIDU (Chair)	Manager Senior Aviation Customer Lead Australian Bureau of Meteorology (MET)	Tel: +61 2 9296 1503 E-mail: ashwin.naidu@bom.gov.au
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Appendix E – Terms of Reference and Work Plan

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COMMUNICATION STRATEGIES				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Work Plan	MET/R WG, MET SG	Document via e-mail and MET/R WG meeting	As required, but reviewed at MET/R WG and MET SG meetings	Chair and Secretariat
Interim Work Program Progress Report	MET/R WG Members	Web-conference E-mail	Quarterly/as determined by Chair	Chair and Secretariat
MET Chairs Coordination Meeting	Chairs of MET SG and its contributory working groups	Web-conference E-mail	Quarterly	Chair and Secretariat
General correspondence	MET/R WG Members	E-mail	As required	MET/R WG Members
MET/R WG Meeting	MET/R WG Members	Meeting (face-to-face or tele- /web-conference)	As required At least annually	Chair and Secretariat
Joint MET-ATM/ATFM technical coordination session, such as joint plenary meeting session and MET/ATM seminar	MET-ATM/ATFM	Virtual or face to face	At least annually	Chair and Secretariat
Status and Milestone Reports	MET/R WG Members	E-mail and working paper at MET/R WG meeting	At least annually	Chair and Secretariat
MET/R WG Report	MET SG and ATFM SG (and ATM/SG, through MET SG) and all APAC States	ICAO website and working paper at MET SG meeting	Following each MET/R WG meeting	Chair and Secretariat

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MET/R WG – WORK PLAN

METEOROLOGICAL REQUIREMENTS WORKING GROUP (MET/IE WG)

(Note: **Endorsed** updates are indicated with ~~strike through~~ and **highlighted text**)

DELIVERABLES
1. Documented analysis of MET information requirements (current and future) for the Region specifically to support ATM operations
2. Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ANS Plan
3. Further development of regional guidance material for tailored MET information supporting ATM operations
4. Strengthen collaboration and relationship between MET, ATM and Airspace Users
5. Coordinated review of the APAC ANP Volume III, including proposals for improvements to the ANRF and other parts of Volume III, to clarify the MET-related implementation planning guidance
6. Development of APAC Use Case for SWIM-based MET Information Services Supporting ATFM
7. Promote and assist ATM and Airspace Users with user education on the Space Weather Advisory service
8. Meteorological Information for the Asia Pacific Regional Framework for Collaborative ATFM
9. SIGMET coordination activities in APAC Region

DELIVERABLES	By date	Responsibility	Status
1. Deliverable 1: Documented analysis of MET information requirements (current and future) for the Region specifically to support ATM operations			
1.1. Identify follow-up actions (including presenting the survey results at ATM and Airspace Forums) (a) finalise and publish the refined 2021 survey report on MET services supporting ATM on the ICAO APAC eDocuments website; and (b) support ATFM SG in preparing a summary of the 2021 survey outcomes for presentation to ATM SG/13.	(a) MET SG/29 (b) ATM SG/13.	Ad hoc Group: Rapporteur- Australia, Singapore, New Zealand, China, Japan, Thailand, Hong Kong China*, Viet Nam *Ira Chan, Christy Leung, John Chong	In-progress COMPLETED
1.2. Formulate a proposal for the timing and content of a future survey develop a draft framework and concept note for a future regional survey for review at MET/R WG/15 and ATFM SG/16;	MET/R WG/15 and ATFM SG/16	Ad hoc Group (as above) plus others identified in ATFM/SG/14 and MET/R WG/13	SUPERSEDED
1.3. Continue the development of a well-defined proposal for a follow-up regional survey, in order to clarify the survey's operational value and scope, and relevance to ATM stakeholders		Ad hoc Group (as above), expanded to include representatives from the ATFM & A CDM/SG community	To Begin
2. Deliverable 2: Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ANS Plan			
2.1. Further development (of the list of MET information or services necessary to support the implementation of the priority 2 and 3 elements of the Asia/Pacific Seamless ANS Plan) in coordination with ATFM/SG	MET/R WG/14 and ATFM/SG/15	Ad hoc group: Rapporteur- Singapore, Australia, China, Hong Kong China*, Japan, Thailand *Ira Chan, Christy Leung, John Chong	COMPLETED
3. Deliverable 3: Further development of Regional guidance material for tailored MET information supporting ATM operations			
3.1. Share the States' practices and challenges of verification and evaluation of impact-based MET information to support ATM operation in the MET/ATM seminar and/or MET/R WG/43	MET/R WG/14	MET/R WG members	Completed
3.2. Analyze provided information under 3.1 and other information in the WG meetings/Seminars and consider appropriate actions, such as including it in the Guidance.	MET/R WG/15	Ad hoc group: Rapporteur-Japan, Australia, China, Hong Kong China*, Republic of Korea, Singapore, Thailand, Vietnam and IATA *Ira Chan (key coordinating person), Christy Leung, John Chong	To begin Superseded
3.3. Consider including China's implementation example		Ad hoc Group (as above)	Completed

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DELIVERABLES	By date	Responsibility	Status
(MET/R WG/13 – IP02) and finalize and submit the proposed updates to the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations to MET SG – as agreed in Decision MET/R WG/13-02			
3.4. Include the Republic of Korea's implementation example (MET/R WG/14, WP/07) in the proposed updates to the <i>Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations</i> to MET SG – as agreed in Decision MET/R WG/14-xx	MET SG/29	Ad hoc Group (as above)	Completed
3.5. Consider updating the Guidance based on the outcomes of MET/R WG meetings, as necessary.	MET/R WG/16	Ad hoc Group (as above)	To Begin
3.6. Consider appropriate inclusion of examples of meteorological thresholds utilized for supporting ATM decision making to the Guidance appendices (Ref. MET/ATM Seminar 2025 SP/04 and SP/07).	MET/R WG/16	Ad hoc Group (as above)	To Begin
3.7. Consolidate the draft guidance update to seek approval of MET SG	MET SG/30	Ad hoc Group (as above)	To Begin
4. Deliverable 4: Strengthen collaboration and relationship between MET, ATM and Airspace Users			
4.1. Plan to conduct MET/R WG/14 in conjunction with ATFM/SG/15 to include a joint plenary component on matters of importance to both groups, including a Seminar on MET/ATM collaboration	MET SG/28	Chair and Secretariat in coordination with ATFM/SG Chair	Completed
4.2. Develop content for the Seminar on MET/ATM collaboration, such as examples of collaboration in the region and how to improve special air reports (ARS) availability	MET/R WG/14, MET/ATM Seminar	Secretariat in coordination with experts from States, including Fiji and India	Completed
4.3. Report outcomes of the MET/ATM Seminar to MET SG, including issuing a state letter to encourage the States to improve ARS availability and make use of the reports in SIGMET issuance	MET SG/29	Chair and Secretariat	In-progress Completed
4.4. Plan to conduct MET/R WG/15 in conjunction with ATFM/SG/16 to include a joint plenary component on matters of importance to both groups, including a Seminar on MET/ATM collaboration, taking into consideration feedback from the 2025 MET/ATM Seminar, including promoting and facilitating online participation in the Seminar.	MET/R WG/15 and ATFM/SG/16	Chair and Secretariat in coordination with ATFM/SG Chair	To begin Superseded
4.5. Further develop the proposal as outlined in WP/05 for a joint MET/ATM Seminar in conjunction with the next MET/R WG and ATFM & A-CDM/SG meetings. This would include refining the scope, identifying the most appropriate date, and ensuring the seminar addresses the needs of relevant operational communities.	MET/R WG/16 (2027)	Small joint task group, comprising the Chairs of both groups and volunteers from each of MET/R WG and ATFM & A-CDM/SG, incl. HKG, JPN, THA, NPL, USA	To Begin
5. Deliverable 5: A coordinated review of the APAC ANP Volume III, including proposals for improvements to the air navigation reporting form (ANRF) and other parts of Volume III, to clarify the MET-related implementation planning guidance			
5.1. Support MET SG with the development of MET-specific requirements in the ANP, Volume III; giving consideration to: i. The need to coordinate development of proposals for the ANP Volume III with the other APANPIRG Sub-Groups; ii. The implications of the proposed project to migrate the APAC Seamless ANS Plan and other regional plans and guidance material into ANP Volume III; and iii. Examples of ANP Volume III from other ICAO regions	MET SG/30	Ad-hoc group: Rapporteur-Secretariat, Australia, Hong Kong China*, IATA, Japan, Singapore, Thailand *Ira Chan, Christy Leung, John Chong	To begin Pending outcomes of ICAO's development on the eANP system
6. Deliverable 6: Development of APAC Use Case for SWIM-based MET Information Services Supporting ATFM			
6.1. Submit the draft reference document to MET SG and ATM SG for review, including proposals to publish the document on the ICAO website and a procedure for	MET SG/28 and ATM/SG/	Ad-hoc group (see below*)	Completed

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DELIVERABLES	By date	Responsibility	Status
updating it as a living document			
6.2. Update the reference document to include the example from MET/R WG/14, WP/10, and submit the proposed updates to MET SG for consideration and approval for publication on the ICAO APAC eDocument website.	MET SG/29	Ad-hoc group (see below*) [Editorial note: to be updated]	To begin Superseded by 6.3
6.3. Publish the editorial changes as highlighted in Attachment A to MET/R WG/15 WP/11, as the Second Edition of the document, dated April 2026.	MET SG/30	Secretariat	To Begin
6.4. Incorporate inputs provided by 1 June 2026 by States and Administrations on use cases for SWIM-based MET information services supporting ATFM into the document	MET SG/30	Ad-hoc group	To Begin
7. Promote and assist ANSPs and Airspace Users with user education on the Space Weather Advisory service			
7.1. Seek input from end users (by way of questionnaire) on the content of a SWX workshop or seminar	MET SG/29	Secretariat and MET/R-WG members	To begin
7.2. Seek input from end users on the content of a SWX advisory exercise	MET SG/29	Secretariat and MET/R-WG members	To begin
8. Meteorological Information for the Asia Pacific Regional Framework for Collaborative ATFM			
8.1. Provide input on seasonal meteorological information for the Regional Framework	TBC	MET/R WG members	Pending advice from ATFM/SG [Obtain advice]
9. SIGMET coordination activities in the APAC Region: Coordinate on the next steps to promote integration and expansion of SIGMET coordination activities among States and administrations.			
9.1. Maintain the online repository on SIGMET coordination activities in the APAC Region.	MET/R WG/16	Ad hoc group on SIGMET Coordination:	ONGOING
9.2. Identify common SIGMET coordination practices from the document of cases of SIGMET Coordination practices and seek further inputs from States' current practice. The following points to consider: - Collect more practices on TC SIGMET handover procedures and analyzing them to seek possible inclusion to the Regional SIGMET Guide (MET/R WG/13 – WP/09) COMPLETED - Seek user feedback on TC SIGMET handover procedures (MET/R WG/14, WP/08) - VA SIGMET issuance over the multiple FIR (MET/R WG/13 – WP/10, 2.1-2.2) COMPLETED - Collect more practices on SIGMET coordination procedure in addition to MET/R WG/13 – WP/08 (Appendix A) and seek any input to Appendix K of the Regional Guidance. Collect and analyze the States' practices of minimum duration of the validity period of WS SIGMET for TS (MET/R WG/14, WP/13) COMPLETED [Ref: MET/R WG/15 WP/09, IP/08]	MET/R WG/16	Joint Rapporteurs: - Hong Kong China (Christy Leung, Betty Mak) - Japan (Michiko Ikeda FUJIMOTO Masato) - Singapore (Goh Wee Poh) Other members: - China (Lin Caiyan) - Fiji (Samisoni Waqavakatoga) - IFALPA (Jaffar Hassan) - India (VR Durai, Dr Neeti Singh) - Indonesia (Resa Pratikasari, Nurul Hidayati) - Malaysia (Rafizam Ramli, Fatimah Syahirah, Syahirah Nik Adnan, Chai Mui Fatt) - Thailand (Rassmee Damrongkietwattana) - Vietnam (Le Quang Hung, Vu Thi Thanh Tam)	In progress
9.3. Propose the SIGMET coordination guidance in the Regional SIGMET Guide following findings from below The following points to consider: - Possible common WS SIGMET (TS) issuance criteria in the Asia/Pacific Region (MET/R WG/13 – WP/09, Appendix B) - Considerations on criteria for convective system straddle across multiple FIR (MET/R WG/13 – WP/09, Appendix C)	MET SG/28		Completed
9.4. Review, organise and support surveys on user requirements of SIGMET coordination Seek user feedback on TC SIGMET handover procedures (MET/R WG/14, WP/08)	MET/R WG/16		In progress

***Ad-hoc group for Deliverable 6: Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM**

State / Administration / IO	Name	Position and/or Organisation	Expertise
Australia Australia	Jesper Bronsvort Ashwin Naidu (Co-	Airservices Australia BOM	ATFM MET

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*Ad-hoc group for Deliverable 6: Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM			
State / Administration / IO	Name	Position and/or Organisation	Expertise
CANSO Hong Kong China Hong Kong China Hong Kong China	Rapporteur) Stuart Ratcliffe Marco Kok (Co-Rapporteur) Ira Chan (Co-Rapporteur) Anfernee Poon	CANSO Acting Senior Scientific Officer / HKO Scientific Officer / HKO Senior Operations Officer (Strategic Planning) / HKCAD	ATFM MET/SWIM MET ATFM
IATA IATA	John Moore Mr Zhang Ti	IATA Senior Manager Flight Operations & GADM, Operations, Safety and Security, North Asia, IATA	ATFM/MET ATFM
Japan Japan Japan Pakistan Pakistan Republic of Korea Republic of Korea Singapore Singapore Singapore Singapore Thailand	YONE Toshihiro IKEDA Michiko FUJIMOTO Masato (Mr) Fazal Ur Rehman Syed Ali Baqadar Shah Heeju Jeong Keuno Park Zhang HuanBin Jaek Toh Yeo Cheng Xun He Jialing Amornrat Jirattigalachote (Amo) Dudsadee Sungthong	JCAB JMA JMA PCAA PCAA Assistant of Director / KMA Assistant of Director / KMA Head, ATM development/CAAS Head (ATM Info System) MSS Head (ATM – Operations Development) Expert, Director Level Strategic Planning Manager /AEROTHAI ATM Network Assistance Manager Strategic ATFM Team/AEROTHAI FAA - Air Traffic Organization VATM	ATFM MET MET ATFM MET MET MET ATFM ATFM MET ATFM ATFM/SWIM ATFM
United States Vietnam	Shayne A. Campbell Ms. Tran Hoang Linh		ATFM ATFM

MET/IE WG – TERMS OF REFERENCE

METEOROLOGICAL INFORMATION EXCHANGE WORKING GROUP (MET/IE WG)

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

The MET/IE WG is made up of experts from the following entities:

- APAC Regional OPMET Data Banks (RODBs): Brisbane, Nadi, Tokyo, Singapore and Bangkok;
- APAC Regional OPMET Centres (ROCs);
- Secure Aviation Data Information Service (SADIS) and WAFS Internet File System (WIFS) Provider States, United Kingdom and United States;
- Designated focal points for SIGMET tests and regional OPMET bulletin exchange (ROBEX);
- User representatives, such as the International Air Transport Association (IATA).

Representatives from any APAC States are welcome to join the MET/IE WG meetings. Core membership of the working group is as follows:

1. CORE MEMBERSHIP		
State or Org./Name	Title/Organization	Contact information
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State or Org./Name	Title/Organization	Contact information
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VIETNAM (TBC)		
IATA (TBC)		
ICAO (Secretariat) Mr. Peter DUNDA	Regional Officer Aeronautical Meteorology/Environment International Civil Aviation Organization 252/1, Vibhavadi Rangsit Road, Ladyao, Chatuchak, Bangkok 10900 THAILAND	Tel: +66 (2) 537-8189 Ext. 153 Fax: +66 (2) 537-8199 Email: PDunda@icao.int

2. DESCRIPTION	
Objective	Increase quality, availability and timeliness of Meteorological Information needed for flight planning (efficiency) and in-flight re-planning (safety) in support of the services defined in ICAO Annex 3 and the transition to information services as defined in GANP.
Benefits	Increase in safety and efficiency (time and fuel savings), supporting environmental sustainability.
Functions of the group	Under guidance from the ICAO APAC Secretariat: a) Review the OPMET exchange schemes in the APAC and other regions and develop proposals for their optimization, taking into account the requirements by the aviation users and global OPMET exchange; b) Review and update of the procedures for inter-regional OPMET exchange and ensure the availability of the required APAC OPMET data for SADIS and WIFS; c) Monitor the quality, availability and timeliness of OPMET; d) Monitor and participate in inter- and intra-regional trials and implementation of aeronautical meteorological information exchange in support of the implementation of System Wide Information Management (SWIM); e) Develop standardized quality control, monitoring and management procedures related to exchange of OPMET; f) Promote awareness of the transition from TAC to IWXXM and in support of SWIM; g) Conduct regular regional IROG back-up and SIGMET tests; h) Provide support for the APAC MET exercises; i) Review and update the regional guidance material related to OPMET exchange, including relevant material on IWXXM, AMHS and SWIM; j) Liaise and consult with other appropriate bodies within ICAO and WMO dealing with communication and/or management aspects of the OPMET exchange; k) Coordinate and seek support from other enabling ICAO groups (e.g. SWIM TF, ACSICG, CRV OG, etc.) to support MET information exchange initiatives; and l) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other appropriate bodies. m) Support implementation planning for the cessation of international TAC exchange, including identifying transitional risks and coordination with relevant ICAO bodies. n) Monitor regional readiness for IWXXM versions approved by ICAO METP/WG-MIE and promote timely upgrades to maintain interoperability.

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3. Communication Strategies				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Annual working group meeting	All APAC States	In person	Annual / March	Chair(s) and Secretariat
Interim Work Program Progress Report	MET/IE WG Members	Web-conference E-mail	Quarterly/as determined by Chair	Chair(s) and Secretariat
MET Chairs Coordination Meeting	Chairs of MET SG and its contributory working groups	Web-conference E-mail	Quarterly/as determined by MET SG Chairs	Chair(s) and Secretariat
General correspondence	MET/IE WG Members	E-mail	As required	MET/IE WG Members
New, specific proposal for action (WP)	MET/IE WG Meeting	Working Paper (MET/IE WG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	MET/IE WG Members or States
New, specific information (IP)	MET/IE WG Meeting	Information Paper (MET/IE WG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	MET/IE WG Members or States
Working Group Meeting Report	MET/IE WG Members and all APAC States	MET/IE WG Meeting Report	Annually/published 21-days or less after the meeting	Chair(s) and Secretariat
Working Group Progress Report	MET SG Meeting	Working Paper (MET SG meeting)	Annually/submitted 28-days or more before the meeting (published 14-days or more before the meeting)	Chair(s) and Secretariat

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MET/IE WG – WORK PLAN

METEOROLOGICAL INFORMATION EXCHANGE WORKING GROUP (MET/IE WG)

(Note: **Endorsed** updates are indicated with ~~strike through~~ and highlighted text)

4. WORK PROGRAM			
Activity	Time Frame	Responsibility	Status
Activity 1: Quality, Availability and Timeliness of OPMET exchange	Ongoing	MET/IE WG	
Activity 2: SIGMET and Advisory Tests	Ongoing	MET/IE WG	
Activity 3: IROG Backup Tests	Ongoing		
Activity 4: Regional guidance material related to data exchange	Ongoing	MET/IE WG	
Activity 5: MET information exchange scheme	Ongoing	MET/IE WG	
Activity 6: MET information in SWIM	Ongoing	MET/IE WG	

5. WORK PLAN			
Activity / Milestone	Accountability	Date	Status
Activity 1: Quality, Availability and Timeliness of OPMET exchange			
Activity 1.1: Monitor and collate OPMET data.	RODBs and IATA	Annually Nov	
Activity 1.2: Assess RODB OPMET reception.	RODB Bangkok	Annually Jan	
Activity 1.3: Analyse data and share results with RODBs	RODB Bangkok	Annually Jan	
Activity 1.4: Prepare paper report results to MET/IE WG meeting	RODB Bangkok	Annually Feb	
Activity 1.5: Report summary of OPMET quality, availability and timeliness results to MET SG (via annual MET/IE WG report)	Chair	Annually before MET SG	
Activity 1.6: Provide support for States to support corrective actions if requested.	RODBs	As required	
Activity 2: SIGMET and Advisory Tests			
Activity 2.1: Review SIGMET Test procedures	MET/IE WG	Annually Aug	
Activity 2.2: State Letter regarding SIGMET Tests	Secretariat	Annually Sep	
Activity 2.3: Email participating MWOs, RODBs, VAACs, TCACs and SVOs regarding SIGMET Tests	Secretariat	Annually	Last Wed in Oct
Activity 2.4: Conduct and collate data for TC SIGMET Tests	RODBs	Annually	2 nd Wed in Nov
Activity 2.5: Conduct and collate data for VA SIGMET Tests	RODBs	Annually	3 rd Wed in Nov
Activity 2.6: Conduct and collate data for other SIGMET Tests	RODBs	Annually	4 th Wed in Nov
Activity 2.7: Analyse test data	RODB Singapore and Tokyo	Annually Jan	
Activity 2.8: Report to MET/IE WG	RODB Singapore and Tokyo	Annually Mar	
Activity 2.9: Report on SIGMET Test Results to MET SG (via annual MET/IE WG report).	Chair	Annually May	
Activity 3: IROG Back-up Tests			
Activity 3.1: Update IROG Back-up Procedures in ROBEX Handbook, including support for IWXXM.	Secretariat	As required	
Activity 3.2: Identify list of OPMET to monitor.	IROG Bangkok and Singapore	Annually Jul/Aug	
Activity 3.3: Conduct IROG Back-up Test of Bangkok and analyse results	IROG Bangkok and Singapore	Annually Sept/Oct	
Activity 3.4: Conduct IROG Back-up Test of Singapore and analyse results	IROG Bangkok and Singapore	Annually Sep/Oct	

MET SG/30
Appendix E – Terms of Reference and Work Plan

5. WORK PLAN			
Activity / Milestone	Accountability	Date	Status
Activity 3.5: Report to MET/IE WG	IROG Bangkok and Singapore	Annually Mar	
Activity 4: Regional guidance material related to data exchange			
Activity 4.1: Propose updates to the ROBEX Handbook	MET/IE WG and Secretariat	As required	
Activity 4.2: Share draft updates to the ROBEX Handbook	Secretariat	Annually, at least one month before the MET/IE WG and MET SG	
Activity 4.3: Publish updates to the ROBEX Handbook	Secretariat	Annually Two weeks after the MET/IE WG and MET SG	
Activity 5: MET Information Exchange Scheme			
Activity 5.1: Review ROBEX Scheme diagram	All RODBs, Secretariat	Annually May	
Activity 5.2: Maintain IWXXM online register	Australia, Hong Kong China and Secretariat	As required	
Activity 5.3: Monitor the availability of AMHS with FTBP readiness	MET/IE WG	As required	
Activity 6: MET information in SWIM			
Activity 6.1: Provide education and develop guidance to support States' implementation of MET information services	MET/IE WG	As required	

— END OF SECTION —

APPENDIX F**APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field**

(Adapted from Appendix D to the APANPIRG/36 Report on Agenda Item 4. Additional historical information has been included for AP-MET-16 based on relevant APANPIRG reports and working papers, as indicated in **highlighted** text. This information restores historical records that were inadvertently overwritten during previous updates to the reporting form.)

REPORTING FORM ON (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		Deficiencies			Corrective action			
Requirements	States/ Facilities (Index No.)	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action *
MWO and SIGMET service (Annex 3: Chapter 3, 3.4 and Chapter 7)	Democratic Peoples' Republic of Korea (DPRK) (AP-MET-16)	Requirements for MWO and SIGMET service not established for Pyongyang FIR	2008	Reported by ICAO Regional Office mission	Establish MWO and provide required regular MET service for Pyongyang FIR, including the regular issuance and distribution of SIGMET information to RODBs in the Region for access by users. Verification of SIGMET reception will allow for removal of the deficiency. See notes below for more information.	GACA, Democratic Peoples' Republic of Korea	TBC	A
Meteorological observations and reports. (Annex 3: Chapter 4)	Kiribati (AP-MET-02)	METAR from Kiribati not available on regular basis.	1998	Reported by airlines	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. See notes below for more information.	State designated MET authority	TBC	A
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Kiribati (AP-MET-18)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. See notes below for more information.	State designated MET authority	TBC	U
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Nauru (AP-MET-19)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. See notes below for more information.	State designated MET authority	TBC	U
Meteorological observations and reports. (Annex 3: Chapter 4)	Nauru (AP-MET-21)	METAR/SPECI service not provided	2008	Reported by TCB CAEMSA-SP Technical Expert	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. See notes below for more information.	State designated MET authority	TBC	U

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

REPORTING FORM ON (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		Deficiencies			Corrective action			
Requirements	States/ Facilities (Index No.)	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action *
Provision of SIGMET information (Annex 3, Chapter 7)	Nauru (AP-MET-24)	Lack of SIGMET issued for the Nauru FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. See notes below for more information.	State designated MET authority	TBC	U
Provision of SIGMET information (Annex 3: Chapter 7)	Nepal (AP-MET-14)	Requirements for issuance and dissemination of SIGMET information for Kathmandu FIR have not been fully implemented	2000		Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. See notes below for more information.	State designated MET authority	TBC	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3, 3.6, 4.8)	Papua New Guinea (AP-MET-04)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs.	1995	Observed by States concerned. Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. See notes below for more information.	Rabaul Volcano Observatory, NWS and ASL of Papua New Guinea	TBC	A
Provision of SIGMET for volcanic ash (Annex 3: Chapter 7)	Papua New Guinea (AP-MET-08)	Requirements for issuance and proper dissemination of SIGMET for volcanic ash have not been fully implemented	Dec 2003	Reported by airlines, noted by Volcanic Ash Advisory Centres and confirmed by ICAO mission	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash. See notes below for more information.	NWS of Papua New Guinea	TBC	U
Provision of SIGMET information (Annex 3, Chapter 7)	Papua New Guinea (AP-MET-22)	Lack of SIGMET issued for the Port Moresby FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. See notes below for more information.	State designated MET authority	TBC	U

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

REPORTING FORM ON (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		Deficiencies			Corrective action			
Requirements	States/ Facilities (Index No.)	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action *
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Solomon Islands (AP-MET-20)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. See notes below for more information.	State designated MET authority	TBC	U
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3: 3.6, 4.8)	Tonga (AP-MET-17)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs	2008	Reported by TCB CAEMSA-SP technical expert	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. See notes below for more information.	MOI and MEIDECC	TBC	U

Notes on the (Open) Air Navigation Deficiencies in the MET Field in the Asia/Pac Region

(extracted from Appendix D to the APANPIRG/36 Report on Agenda Item 4)

NOTES ON THE (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION					
Index No.	State	Update Date	NOTES ON OPEN DEFICIENCIES		Status
AP-MET-02	Kiribati	September 2023	MET SG/27 was informed that: Kiribati is now delivering observations regularly but is continuing work on upgrading its observing facility before providing resolution information.		Open
		September 2017	APANPIRG/28 noted that Kiribati should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.		
AP-MET-04	Papua New Guinea	September 2023	MET SG/27 was informed that: VAACs Darwin and Wellington are planning a series of exercises in the next six months with the Papua New Guinea (PNG) State Volcano Observatory and MWO to address the PNG volcanic activity information and SIGMET deficiencies, along with the Nauru SIGMET deficiency (due to PNG providing SIGMETs on Nauru's behalf).		Open
		November 2022	APANPIRG/33 noted MET SG/26 recommended that Papua New Guinea: - Conduct additional corrective actions, including seeking confirmation from the recipient operational units and providing evidence of the relevant established procedures; and - Submit an official report to ICAO providing complete details of the action taken.		
		September 2017	APANPIRG/28 noted that Papua New Guinea should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.		
AP-MET-08	Papua New Guinea	September 2023	MET SG/27 was informed that: VAACs Darwin and Wellington are planning a series of exercises in the next six months with the Papua New Guinea (PNG) State Volcano Observatory and MWO to address the PNG volcanic activity information and SIGMET deficiencies, along with the Nauru SIGMET deficiency (due to PNG providing SIGMETs on Nauru's behalf).		Open

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

NOTES ON THE (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION				
Index No.	State	Update Date	NOTES ON OPEN DEFICIENCIES	Status
		September 2017	APANPIRG/28 noted that Papua New Guinea should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
AP-MET-14	Nepal	December 2023	APANPIRG/34 considered the deficiency could be removed from the Open List subject to receiving confirmation of the regular dissemination of the Kathmandu FIR SIGMET information in IWXXM form (in addition to TAC form)	Open
		September 2023	MET SG/27 noted that: - Nepal made significant progress towards rectification of the deficiency, including confirmation of the regular issuance of SIGMET information in 2022, successful participation in the annual APAC regional SIGMET tests, coordination of SIGMET with neighbouring MWOs, and validation from users of receipt of the SIGMET information. - Nepal was not disseminating SIGMET information in the IWXXM form in addition to the dissemination of SIGMET information in the TAC form, as required by Annex 3. - Nepal was in the process of procuring a solution to provide SIGMET in IWXXM form. - APANPIRG may review the status of the deficiency and remove it from the Open List, subject to Nepal confirming in writing to ICAO, and validated by RODB Bangkok, that the regular dissemination of SIGMET information in IWXXM form in addition to TAC form.	
		September 2017	APANPIRG/28 noted that Nepal should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
AP-MET-16	Democratic People's Republic of Korea	September 2018	APANPIRG/29 noted: - APANPIRG/28 noted that DPRK should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.	Open
		September 2017	APANPIRG/28 noted that DPRK should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
		September 2016	APANPIRG/27 noted: Details and status of implementation of CAP to be verified by DPRK.	
		September 2014	APANPIRG/25 noted: - DPRK to submit official report to ICAO APAC Regional Office providing details of corrective action taken. - Validation would necessarily require SIGMET monitoring to confirm receipt at required offices. - Test SIGMETs were not received from DPRK in 2013; assistance to be coordinated by ROBEX WG to resolve the communication issues.	
		June 2013	APANPIRG/24 noted: - DPRK informed ICAO APAC Regional Office that SIGMETs were issued in May 2013; ICAO APAC Regional Office to coordinate confirmation of receipt of SIGMETs at required offices. - DPRK to submit in writing an official report to the ICAO APAC Regional Office providing full details of the action taken to rectify the deficiency; and the ICAO APAC Regional Office to validate that the action taken in the report satisfactorily rectifies the deficiency.	
		September 2011	APANPIRG/22 noted: - DPRK is subsequently producing SIGMET on a regular basis and is routing SIGMET to RODB Tokyo. - It is required for Sunan MWO to participate in the APAC SIGMET test in November 2011. - This deficiency can be removed if SIGMET is continued to be issued regularly for another six months.	
		September 2010	APANPIRG/21 noted: DPRK participated in SIGMET tests in Nov 2009 – however, RODBs are not receiving real-time SIGMET.	
AP-MET-17	Tonga	September 2023	MET SG/27 was informed that:	Open

MET SG/30

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

NOTES ON THE (OPEN) AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION				
Index No.	State	Update Date	NOTES ON OPEN DEFICIENCIES	Status
			Tonga is developing an MOU between organisations involved in providing and sharing volcanic activity information, which includes the procedures to be followed.	
		November 2022	APANPIRG/33 noted MET SG/26 recommended that Tonga: - Conduct additional corrective actions, including seeking confirmation from the recipient operational units and providing evidence of the relevant established procedures; and - Submit an official report to ICAO providing complete details of the action taken.	
		September 2017	APANPIRG/28 noted that: Removal of the Deficiency from the open List is subject to the concurrence of the ATS units, MWOs and VAACs concerned that the Deficiency is resolved.	
		June 2018	MET SG/22 noted that: VAAC Wellington was coordinating with Tonga on the validation of corrective action taken to resolve the Deficiency.	
		29 May 2017	MOI, Civil Aviation Division, advised that: Relevant operating procedures implemented in the units concerned and case studies of real volcanic events presented as evidence of the State volcano observatory's issuance of the required volcano observation information.	
		10 May 2013	Ministry of Infrastructure (MOI), Civil Aviation Division, advised that: MOU established between the national authority providing volcano monitoring (Ministry of Lands, Environment, Climate Change and Natural Resources – MLECCNR) and the national authority providing meteorological service for international air navigation (MOI) for the reporting of volcanic activity to the associated ACCs, MWOs and VAACs in accordance with the relevant ICAO SARPs.	
AP-MET-18	Kiribati	September 2023	MET SG/27 was informed that: Kiribati, Nauru and Solomon Islands are working with their local users to determine whether there is any requirement for local WAFS information provision.	Open
		September 2017	APANPIRG/28 noted that Kiribati should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
AP-MET-19	Nauru	September 2023	MET SG/27 was informed that: Kiribati, Nauru and Solomon Islands are working with their local users to determine whether there is any requirement for local WAFS information provision.	Open
		September 2017	APANPIRG/28 noted that Nauru should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
AP-MET-20	Solomon Islands	September 2023	MET SG/27 was informed that: Kiribati, Nauru and Solomon Islands are working with their local users to determine whether there is any requirement for local WAFS information provision.	Open
		September 2017	APANPIRG/28 noted that Solomon Islands should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
		June 2019	MET SG/23 requested the Secretary in conjunction with support from other States to provide Solomon Islands with assistance in preparing the full report on rectification of the Deficiency.	
AP-MET-21	Nauru	September 2017	APANPIRG/28 noted that Nauru should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	Open
AP-MET-22		September 2023	MET SG/27 was informed that:	Open

MET SG/30

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

NOTES ON THE <u>(OPEN)</u> AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION				
Index No.	State	Update Date	NOTES ON <u>OPEN</u> DEFICIENCIES	Status
	Papua New Guinea		VAACs Darwin and Wellington are planning a series of exercises in the next six months with the Papua New Guinea (PNG) State Volcano Observatory and MWO to address the PNG volcanic activity information and SIGMET deficiencies, along with the Nauru SIGMET deficiency (due to PNG providing SIGMETs on Nauru's behalf).	
		September 2017	APANPIRG/28 noted that Papua New Guinea should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	
AP-MET-24	Nauru	September 2023	MET SG/27 was informed that: VAACs Darwin and Wellington are planning a series of exercises in the next six months with the Papua New Guinea (PNG) State Volcano Observatory and MWO to address the PNG volcanic activity information and SIGMET deficiencies, along with the Nauru SIGMET deficiency (due to PNG providing SIGMETs on Nauru's behalf).	Open
		September 2017	APANPIRG/28 noted that Nauru should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	

Notes on the (Closed) Air Navigation Deficiencies in the MET Field in the Asia/Pac Region

(extracted from Appendix D to the APANPIRG/36 Report on Agenda Item 4)

NOTES ON THE <u>(CLOSED)</u> AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION				
Index No.	State	Update Date	NOTES ON <u>CLOSED</u> DEFICIENCIES	Status
AP-MET-01	Solomon Islands	December 2020	Removed from the open List; APANPIRG/31 Conclusion 31/19, refers.	Closed
AP-MET-03	Indonesia	September 2017	Removed from the open List, APANPIRG/28 Conclusion 28/29 refers.	Closed
AP-MET-05	–	–	This Index No. is not used.	Closed
AP-MET-06	Indonesia	September 2017	Removed from the open List, APANPIRG/28 Conclusion 28/29 refers.	Closed
AP-MET-07	Philippines	November 2019	Removed from the open List, Conclusion APANPIRG/30/19, refers.	Closed
AP-MET-09	Cambodia	September 2018	Removed from the open List, APANPIRG/29 Decision 29/23 refers	Closed
AP-MET-10	–	–	This Index No. is not used.	Closed
AP-MET-11	Cambodia	September 2018	Removed from the open List, APANPIRG/29 Decision 29/24 refers	Closed
AP-MET-12	Lao PDR	September 2018	Removed from the open List, APANPIRG/29 Decision 29/24 refers	Closed
AP-MET-13	–	–	This Index No. is not used.	Closed
AP-MET-15	–	–	This Index No. is not used.	Closed

MET SG/30
Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

NOTES ON THE <u>(CLOSED)</u> AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION				
Index No.	State	Update Date	NOTES ON <u>CLOSED</u> DEFICIENCIES	Status
AP-MET-23	Solomon Islands	November 2022	Removed from the open List; refer to: - Conclusion APANPIRG/33/14 – <i>Update of information in APANPIRG Air Navigation Deficiencies Reporting Form</i>; - APANPIRG/33 WP/14 – <i>STATUS OF AIR NAVIGATION DEFICIENCIES IN THE ASIA/PAC REGION</i>; - APANPIRG/33 WP/13 – <i>METEOROLOGY SUB-GROUP (MET SG/26) REPORT</i>; and - APANPIRG/33 IP/08 – <i>RECTIFICATION OF APANPIRG AN DEFICIENCY AP-MET-23</i>	Closed
		October 2021	MET SG/25 requested the Solomon Islands, with assistance from its partner States, to conduct additional corrective action to enable the MET SG to confirm that Solomon Islands had fully resolved the Deficiency; maintain a log of all SIGMETs issued over at least one month to capture the operational WC-, WS- and WV-SIGMETs, plus any test WV-SIGMETs; pass the details [of the log] to the ad hoc group [on AN Deficiencies] to compare against SIGMETs received by RODB Brisbane [MET SG/25, Action No. 25/10]. Subject to Solomon Islands demonstrating resolution of the issues concerning content, format and timeliness of SIGMET information (as discussed in MET SG/25, WP/12) and sustainable provision of ICAO-compliant SIGMET service, MET SG would support the removal of Deficiency AP-MET-23 from the APANPIRG open list. Therefore, to facilitate the removal of the Deficiency from the open List, MET SG/25 requested the Secretariat coordinate with the Solomon Islands to report the resolution of the Deficiency to APANPIRG [MET SG/25, Action No. 25/11].	
		June 2019	MET SG/23 requested the Secretary in conjunction with support from other States to provide Solomon Islands with assistance in preparing the full report on rectification of the Deficiency.	
		September 2017	APANPIRG/28 noted that Solomon Islands should: - Verify the status of implementation of CAP; and - Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the Deficiency.	

Acronyms/Abbreviations/Definitions (used in this document)

ACC	— Area control centre
ASL	— Air Services Ltd.
ATS	— Air traffic services
CAEMSA-SP	— Cooperative Agreement for the Enhancement of Meteorological Services to Aviation - South Pacific
CAP	— Corrective action plan
FIC	— Flight information centre
FIR	— Flight information region
GACA	— General Administration of Civil Aviation
IATA	— International Air Transport Association
MEIDECC	— Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication
MET	— Meteorological
METAR	— Aerodrome routine meteorological report (<i>in meteorological code</i>)

Appendix F – APANPIRG Reporting Form on Air Navigation Deficiencies in the MET Field

Acronyms/Abbreviations/Definitions (used in this document)

MWO	— Meteorological watch office
NWS	— National Weather Service
SIGMET	— Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations
SPECI	— Aerodrome special meteorological report (<i>in meteorological code</i>)
TBC	— To be confirmed
TCB	— Technical Cooperation Bureau (of ICAO)
VAAC	— Volcanic ash advisory centre
WAFC	— World area forecast centre

— END OF DOCUMENT —

APPENDIX G

The following change is proposed to APAC Regional ANP Volume II – Part V Meteorology (MET)
(Ref: Draft Conclusion MET SG/30-12 – Amendment of the APAC Air Navigation Plan for the
Provision of OPMET Information in IWXXM Form)

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

Requirements for and use of communications

2.8 Operational meteorological information prepared as METAR, SPECI and TAF for aerodromes indicated in **Table MET II-2**, and SIGMET and AIRMET messages prepared for flight information regions or control areas indicated in **Table MET II-1**, should be disseminated to the international OPMET databanks designated for the Asia and Pacific Regions (namely Bangkok, Brisbane, Nadi, Singapore and Tokyo) and to the centres designated for the operation of the aeronautical fixed service satellite distribution system (SADIS 2G) and the Internet-based service (Secure SADIS FTP) and WIFS in the Asia and Pacific Regions.

2.9 SIGMET messages should be disseminated to other meteorological offices in the Asia and Pacific Regions in accordance with the regional OPMET bulletin exchange scheme.

2.10 Special air-reports that do not warrant the issuance of a SIGMET should be disseminated to other meteorological offices in the Asia and Pacific Regions in accordance with the regional OPMET bulletin exchange scheme.

2.11 In the Asia and Pacific Regions, meteorological information for use by aircraft in flight should be supplied through VOLMET broadcasts.

2.12 In the Asia and Pacific Regions, the aerodromes for which METAR and SPECI are to be included in VOLMET broadcasts, the sequence in which they are to be transmitted and the broadcast time, is indicated in **Table MET II-3**.

2.13 In the Asia and Pacific Regions, VONA, METAR, SPECI, TAF, SIGMET, AIRMET and tropical cyclone, volcanic ash and space weather advisories are to be provided in both traditional alphanumeric code and IWXXM forms. In addition, quantitative volcanic ash concentration information (QVA) is to be provided in IWXXM and gridded form.

— END OF SECTION —