

International Civil Aviation Organization

ICAO

WORKING PAPER (WP/22)**ASIA AND PACIFIC (APAC)
THIRTIETH MEETING OF THE METEOROLOGY
SUB-GROUP (MET SG/30)**

Bangkok, Thailand, 20 - 24 July 2026

Agenda Item 10: Future Work Program**REVIEW OF THE MET SG TERMS OF REFERENCE AND WORK PLAN**

(Presented by the Secretariat)

SUMMARY

This paper presents the current Terms of Reference (ToR) and Work Plan of the Asia/Pacific Meteorology Sub-Group (MET SG) for review by the meeting. It highlights relevant outcomes from APANPIRG/36 concerning MET SG priorities, challenges and future activities. The paper includes proposed amendments to the ToR and Work Plan to better align MET SG activities with APANPIRG/36 priorities, including MET deficiency resolution, IWXXM and SWIM implementation, MET-ATM collaboration, capacity-building activities, support for Pacific Small Island Developing States (PSIDS), and APAC Air Navigation Plan (ANP) Volume III developments. The meeting is invited to review the proposed amendments in Appendix A.

1. INTRODUCTION

1.1 The Meteorology Sub-Group (MET SG) was established by the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) to assist in the planning and implementation of aeronautical meteorological services in the Asia/Pacific (APAC) Region. Its Terms of Reference (ToR) and Work Plan provide the framework for MET SG activities and deliverables.

1.2 MET SG/29 reviewed the MET SG ToR and Work Plan and proposed updates to ensure continued responsiveness to operational priorities and technological developments in the APAC Region. APANPIRG/36 subsequently noted these updates in the MET SG/29 report.

1.3 This paper invites the meeting to review the current ToR and Work Plan contained in **Appendix A**, including the proposed amendments arising from APANPIRG/36 outcomes, and consider whether any further updates are required.

2. DISCUSSION**MET SG Terms of Reference and Work Plan**

2.1 The MET SG ToR define the objectives, functions, membership, working arrangements and delegated authority of the Sub-Group. The Work Plan identifies the activities and deliverables

necessary to support implementation of ICAO provisions and regional air navigation priorities in the field of aeronautical meteorology.

2.2 The current Work Plan includes activities related to:

- a) maintenance of the MET parts of the APAC Air Navigation Plan (ANP);
- b) development and maintenance of regional MET guidance material;
- c) identification and resolution of MET-related air navigation deficiencies;
- d) implementation of IWXXM and SWIM-based MET information services;
- e) support for MET information services required by ATM operations;
- f) MET-related exercises, seminars and capacity-building activities; and
- g) environmental and climate-related meteorological initiatives.

APANPIRG/36 Outcomes

2.3 APANPIRG/36 noted that MET SG/29 proposed updates to its ToR and Work Plan to ensure responsiveness to operational priorities and technological developments, supporting safe, efficient and sustainable air navigation in the region. APANPIRG/36 also emphasized the importance of strengthening Secretariat capacity to support delivery of the MET programme and the implementation of its work plan.

2.4 APANPIRG/36 further noted ongoing regional challenges and priorities, including:

- a) continued support to States in resolving long-standing MET deficiencies;
- b) improving the availability and regional exchange of operational meteorological information, including IWXXM and emerging MET SWIM services;
- c) strengthening MET–ATM collaboration and alignment of MET services with operational user requirements; and
- d) supporting State volcano observatories and volcanic ash-related activities.

2.5 APANPIRG/36 also recognized the importance of continuing assistance to States, particularly Pacific Small Island Developing States (PSIDS), through workshops, capacity-building activities and regional cooperation initiatives to support implementation of evolving ICAO MET requirements.

Proposed Amendments to the ToR and Work Plan

2.6 The meeting may wish to review the ToR and Work Plan in **Appendix A** to determine whether any updates are required to reflect the priorities identified by APANPIRG/36 and current regional implementation needs.

2.7 The proposed amendments to the ToR include:

- a) strengthening provisions related to guidance material, seminars, workshops and capacity-building activities; and
- b) introducing a new function promoting collaboration between meteorological service providers, ATM stakeholders and other aviation partners to help ensure that meteorological services remain aligned with operational user requirements.

2.8 The proposed amendments to the Work Plan include:

- a) updating activities related to APAC ANP Volume III to align with current APANPIRG work;
- b) strengthening activities related to long-standing MET deficiencies;

- c) updating IWXXM-related activities to reflect ongoing implementation and interoperability requirements;
- d) updating activities supporting ATM operations, including ATFM and SWIM-based MET information services;
- e) introducing dedicated activities related to MET–ATM collaboration and capacity building;
- f) updating target dates that have elapsed; and
- g) completing missing Work Plan status and target date information.

2.9 The proposed amendments contained in **Appendix A** have been developed to better align the MET SG ToR and Work Plan with the priorities identified by APANPIRG/36, particularly deficiency resolution, IWXXM and MET-SWIM implementation, MET–ATM collaboration, capacity building, support for PSIDS and APAC ANP Volume III activities.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) review the MET SG Terms of Reference and Work Plan contained in Appendix A;
- c) consider the proposed amendments contained in Appendix A;
- d) consider whether any updates are required to reflect current regional priorities, challenges and implementation activities; and
- e) agree on any amendments to the MET SG Terms of Reference and Work Plan for inclusion in the MET SG report to APANPIRG.

APPENDIX A

**METEOROLOGY SUB-GROUP (MET SG)
TERMS OF REFERENCE**

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, 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.

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;
- 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 the development and implementation of 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) Develop education materials to assist States in implementing aeronautical meteorological services.
- h) 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
- i) Share aeronautical meteorological initiatives being undertaken to reduce the environmental impact of aviation operations.

- j) Share information on the impacts of climate change on aviation operations.
- k) Promote collaboration between meteorological service providers, ATM stakeholders and other aviation partners to ensure that meteorological information and services remain aligned with operational user requirements.

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.

METEOROLOGY SUB-GROUP (MET SG) WORK PLAN

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 ANRP 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) 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 implementation 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)	Report on the Progress of Monitor and report on implementation and testing of IWXXM-based meteorological information exchange and related regional interoperability issues.	MET/IE WG (Activity 7)	Annually	In progress

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ToR Ref*	Detailed description of deliverable	Responsibility	Target date	Status of progress
g)	Information on ICAO provisions related to meteorological authority and quality assurance, cost recovery, competency, training and qualifications for meteorological service provision shared with States.	MET SG Chair, Secretariat	Annually	In progress
h) k)	Maintain and update guidance and user requirements 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 (Deliverable 1)	As required MET SG/29	In progress
k)	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
i) j)	Share aviation meteorological initiatives being undertaken to 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)	SIGMET coordination activities in APAC Region Coordinate on the next steps to promote integration and expansion of SIGMET coordination activities among States/Administrations.	MET/R WG (Deliverable 9)	As required MET SG/29	In 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 seminars 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 workshops, seminars and 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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