

International Civil Aviation Organization**ICAO****WORKING PAPER (WP/06)****ASIA AND PACIFIC (APAC) FIFTEENTH MEETING
OF THE METEOROLOGICAL REQUIREMENTS
WORKING GROUP (MET/R WG/15)**

Bangkok, Thailand, 7 to 10 April 2026

Agenda Item 5: Future work program and terms of reference**REVIEW MET/R WG TERMS OF REFERENCE AND WORK PLAN**

(Presented by the Secretariat)

SUMMARY

This paper invites the meeting to review the current terms of reference and work plan of the Meteorological Requirements Working Group (MET/R WG). The purpose is to ensure that the group remains relevant, effective, and aligned with regional and global air traffic management needs. The paper provides background on the scope and previous review of these documents and presents the latest approved version for consideration. The meeting is invited to review the documents and agree on any necessary updates for further consideration and possible approval by the Meteorology Sub-Group.

1. INTRODUCTION

1.1 The Meteorological Requirements Working Group (MET/R WG) operates under the Meteorology Sub-Group (MET SG) of the APAC Air Navigation Planning and Implementation Regional Group (APANPIRG). Its role is to support States in implementing meteorological (MET) services required by air traffic management (ATM) operations, with the aim of enhancing the safety, efficiency, and sustainability of air traffic in the APAC region.

1.2 This meeting is invited to review the MET/R WG's terms of reference and work plan and to propose updates, as necessary, to ensure that the working group continues to effectively meet its objectives and remains aligned with regional and global ATM requirements.

2. DISCUSSION

2.1 The MET/R WG's terms of reference and work plan set out the group's purpose and structure, including its establishment, reporting arrangements, objectives, functions, delegated authority, membership, communication approach, and planned deliverables and milestones.

2.2 These documents were last reviewed by the Twenty-ninth Meeting of the Meteorology Sub-Group (MET SG/29), which approved updates to the working group's membership and revised its plan of work, including agreed deliverables.

2.3 Regular review of the terms of reference and work plan is important to confirm the continued relevance of the MET/R WG under the MET SG and APANPIRG, and to ensure that its

activities remain focused on meeting ATM needs for MET services that support safety, efficiency, and environmental sustainability.

2.4 **Appendix A** contains the current version of the MET/R WG's terms of reference and work plan, as reviewed and updated by MET SG/29.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the MET/R WG's terms of reference and work plan contained in Appendix A;
and
- b) agree on and propose any necessary updates for further consideration and possible approval by the Meteorology Sub-Group.

APPENDIX A: MET/R WG TERMS OF REFERENCE AND WORK PLAN (adapted from APPENDIX C to WP/03 from MET SG/29)

TERMS OF REFERENCE

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 of air traffic management (ATM ¹) operations by providing meteorological (MET) information needed to meet current and future requirements of the ATM system.
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, including: <ul style="list-style-type: none"> a) Coordinate with other relevant contributory bodies of APANPIRG such as ATM/SG and ATFM/SG; 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; c) Facilitate the exchange of expertise in the Asia/Pacific Region on the integration of MET information into ATM systems to support collaborative decision making (CDM) and the migration of MET information into the SWIM environment; 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; e) Promote coordination between the MET and ATM communities in the Asia/Pacific Region to enhance the level of understanding of MET requirements and capabilities in support of ATM; and f) Report to the MET SG for further coordination through the ICAO Secretariat with APANPIRG and other relevant bodies.

MEMBERSHIP		
State/Organization Name	Position/organization (field of expertise)	Contact
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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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MEMBERSHIP		
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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	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

PLAN OF WORK

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 and User Requirements 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			

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DELIVERABLES	By date	Responsibility	Status
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
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	
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/13	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
3.3. Consider including China's implementation example (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		Ad hoc Group (as above)	Completed
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)	
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
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	MET/R WG/15 and ATFM/SG/16	Chair and Secretariat in coordination with ATFM/SG Chair	To begin

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DELIVERABLES	By date	Responsibility	Status
on MET/ATM collaboration, taking into consideration feedback from the 2025 MET/ATM Seminar, including promoting and facilitating online participation in the Seminar.			
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: <ul style="list-style-type: none"> 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/29	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 and User Requirements 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 updating it as a living document	MET SG/28 and ATM/SG/	Ad-hoc group (see below*)	Completed
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
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/15	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: <ul style="list-style-type: none"> • 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) • Collect more practices on SIGMET coordination procedure in addition to MET/R WG/13 – WP/08 (Appendix A) and seek any input to Appendix L of the Regional Guidance. • Collect and analyze the States' practices of minimum duration of the validity period of WS SIGMET for TS (MET/R 	MET/R WG/15	Joint Rapporteurs: <ul style="list-style-type: none"> - Hong Kong China (Christy Leung) - Japan (Michiko Ikeda) - Singapore (Goh Wee Poh) Other members: <ul style="list-style-type: none"> - 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) 	In progress

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DELIVERABLES	By date	Responsibility	Status
WG/14, WP/13)		- Vietnam (Le Quang Hung, Vu Thi Thanh Tam)	
9.3. Propose the SIGMET coordination guidance in the Regional SIGMET Guide following findings from below The following points to consider: <ul style="list-style-type: none"> • 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	MET/R WG/15		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	Jesper Bronsvort	Airservices Australia	ATFM
Australia	Ashwin Naidu (Co-Rapporteur)	BOM	MET
CANSO	Stuart Ratcliffe	CANSO	ATFM
Hong Kong China	Marco Kok (Co-Rapporteur)	Acting Senior Scientific Officer / HKO	MET/SWIM
Hong Kong China	Ira Chan	Scientific Officer / HKO	MET
Hong Kong China	Anfernee Poon	Senior Operations Officer (Strategic Planning) / HKCAD	ATFM
IATA	John Moore	IATA	ATFM/MET
Japan	YONE Toshihiro	JCAB	ATFM
Japan	IKEDA Michiko	JMA	MET
Japan	FUJIMOTO Masato (Mr)	JMA	MET
Pakistan	Fazal Ur Rehman	PCAA	ATFM
Pakistan	Syed Ali Baqadar Shah	PCAA	MET
Republic of Korea	Heeju Jeong	Assistant of Director / KMA	MET
Republic of Korea	Keuno Park	Assistant of Director / KMA	MET
Singapore	Zhang HuanBin	Head, ATM development/CAAS	ATFM
Singapore	Jack Toh	Head (ATM Info System)	ATFM
Singapore	Yeo Cheng Xun	MSS	MET
Thailand	Amornrat Jirattigalachote (Amo)	Strategic Planning Manager /AEROTHAI	ATFM/SWIM
Thailand	Dudsadee Sungthong	Strategic ATFM Team/AEROTHAI	ATFM
Vietnam	Ms. Tran Hoang Linh	VATM	ATFM
