



ICAO

*International Civil Aviation Organization***WORKING PAPER****Twenty-fifth Meeting of the Meteorology Sub-group
(MET SG/25)**

Online, 18 – 22 October 2021

Agenda Item 2: Review outcomes from previous meetings**REVIEW OF THE TENTH MEETING OF ASIA/PACIFIC METEOROLOGICAL
REQUIREMENTS WORKING GROUP (MET/R WG)**

(Presented by Chair of MET/R WG)

SUMMARY

This paper presents a summary of the Meteorology/Air Traffic Management (MET/ATM) Webinar and the tenth meeting of the Meteorological Requirement Working Group (MET/R WG/10), held via Web-conference, 24 – 28 May, 2021, including agreed actions and work plan.

1. Introduction

1.1 The ICAO Asia and Pacific (APAC) Regional Office hosted the Meteorology/Air Traffic Management (MET/ATM) Webinar and Tenth Meeting of the Meteorological Requirements Working Group (MET/R WG/10), online from Bangkok, Thailand on 24 to 28 May, 2021.

1.2 One-hundred-and-forty-seven (147) participants from sixteen (25) States and Special Administrative Regions, including Australia, China, Hong Kong China, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, United States and Viet Nam, and the International Air Transport Association (IATA), International Federation of Air Line Pilot's Associations (IFALPA) and ICAO, attended the webinar and meeting.

1.3 Mr. Ashwin Naidu, Australian Bureau of Meteorology, presided as Chair of the meeting, assisted by Ms. Naoko Komatsu, Office of Aeronautical Meteorology, Japan Meteorological Agency (JMA), as Vice-Chair. Mr. Peter Dunda, Regional Officer Aeronautical Meteorology and Environment, ICAO APAC Office, acted as Secretary for the meeting.

1.4 The working language of the meeting was English, inclusive of all documentation and this Report. The meeting considered fifteen (15) slide presentations, eight (8) Working Papers (WPs), nine (9) Information Papers (IPs) and one (1) flimsy. The full report and the papers of the MET/R WG/10 can be accessed at the following website: <https://www.icao.int/APAC/Meetings/Pages/2021-MET-ATM-Webinar-and-MET-R-WG-10.aspx>

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2. Organisational Matters

2.1 The Meeting adopted the provisional agenda as circulated to participants prior to the Meeting, and shown below:

Agenda Item 1: Opening of the meeting and organizational matters

Agenda Item 2: MET/ATM Webinar

Agenda Item 3: Review of MET/ATM Webinar

Agenda Item 4: Review of outcomes from related meetings

Agenda Item 5: Coordination between MET and ATM services

Agenda Item 6: Review of MET/R WG work program and terms of reference

Agenda Item 7: Any other business

Agenda Item 8: Next meeting

2.2 MET/ATM Webinar

2.2.1 Despite being remotely conducted, MET/ATM Webinar was deemed successful.

2.2.2 The webinar shared information, through dedicated presentations and discussion, on the status of APAC States' and Regional planning and implementation of MET service to support ATM operations, while reviewing the status of MET/ATM collaboration on both the national and international level.

2.2.3 The Webinar session covered a series of presentations, as follows:

- *SP/01 – Meteorological Service for International Air Navigation (Secretariat)*
- *SP/02 – Introduction to APAC Regional Guidance for Tailored MET Information and Services to Support ATM (Ad hoc group)*
- *SP/03 – Development and Updating of ATM tailored Meteorological Information (Japan)*
- *SP/04 – Australian ATFM Meteorological Information (Australia)*
- *SP/05 – MET-ATM Collaboration in Singapore (Singapore)*
- *SP/06 – Utilizing weather information in improving arrival flight time prediction in the terminal area (Hong Kong China)*
- *SP/07 – Assessing the Impact of Convective Weather on Airport Departure Rate (Hong Kong China)*
- *SP/08 – Integration of MET Information into Approach Spacing Tool (Hong Kong China)*
- *SP/09 – Development of the Aviation Multi-Data Fusion System (China)*
- *SP/10 – Australian Thunderstorm Alerting Capability (Australia)*
- *SP/11 – Space Weather Advisory Service for Aviation (Australia)*
- *SP/12 – Implementation of MET Information Exchange in IWXXM format (Hong Kong China)*
- *IP/09 – Update on SWIM Regional Coordination (IATA/SWIM TF)*
- *SP/13 – Use case and requirements for SWIM-based MET information services (Ad hoc group)*

Copies of all the Seminar presentations, including a summary of the Seminar discussions, are

available at the ICAO APAC Office website (www.icao.int/apac > Meetings).

2.2.4 The Meeting took into account the Seminar discussions to assist in its deliberations and in its review and development of the MET/R WG plan of work.

3. Outcomes from the meeting

3.1 The Meeting recorded outcomes of its discussions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

- a) **Draft Conclusions:** formulated for further consideration by the Meteorology Sub-group (MET SG), deal with matters of a technical nature and of regional applicability that, according to the MET SG's terms of reference, require the attention of States, or action by the ICAO, in accordance with established APANPIRG procedures;
- b) **Draft Decisions:** formulated for further consideration by the MET SG, relate solely to matters dealing with the internal working arrangements of APANPIRG and its contributory bodies; and
- c) **Decisions:** adopted by the MET/R WG, relate solely to matters dealing with the internal working arrangements of the MET/R WG.

3.2 The Meeting formulated the following two (2) Draft Conclusions and adopted the following Decision:

Draft Conclusion MET/R WG/10/01: *Update on Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations*

That, the MET SG approves the updates to the *APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations*, for use by States, including the proposed updates to the format for the Appendices (1 and 2), the document maintenance procedure and the format for publishing the guidance on the ICAO APAC Office Website

Decision MET/R WG/10/02: *Survey of State Meteorological Information Supporting Air Traffic Management*

That, the MET/R WG approves circulation of the survey questionnaire for responses from APAC States in August 2021

Draft Conclusion MET/R WG/10/03 – *Updates to the MET/R WG Terms of Reference and Work Plan*

That, the MET SG approves the proposed updates to the MET/R WG Terms of Reference and Work Plan as indicated at the **Appendix B** to the Report on MET/R WG/10

3.3 In addition, the meeting agreed to four (4) action items, as indicated throughout the Report on Agenda Items and recorded in the Task List at the **Appendix A** to the Report on MET/R WG/10.

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4. Review of outcomes from related meetings

4.1 The meeting reviewed the status of follow-up action from MET/R WG/09 and updated the MET/R WG Task List accordingly. With respect to follow-up action on item 9/1 on the list, the Secretariat informed the meeting of the schedule of upcoming ICAO APAC Webinars, including a webinar titled Special Air-Reports needed by MET to Support Flight Safety on 17 June 2021.

4.2 The meeting reviewed outcomes from MET SG/24 and noted the following:

4.2.1 Follow-up action on Conclusion MET SG/24-03: Survey of State Meteorological Information Supporting Air Traffic Management;

4.2.2 Follow-up action on Decision MET SG/24-13: Development of APAC User Requirements for SWIM-based MET Information Services Supporting ATFM;

4.2.3 Follow-up action on Decision MET SG/24-16: Updates to Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations; and

4.2.4 The meeting also noted that, in Decision MET SG/24-18: Updates to terms of reference and work plan of and MET/R WG, MET/IE WG and MET/S WG, the MET SG had approved the updated terms of reference and work plan of the MET/R WG.

4.3 The meeting reviewed the outcomes from APANPIRG/31, and proposed appropriate updates to the MET/R WG terms of reference and work plan, as follows:

4.3.1 With respect to APANPIRG/31 Decision 31/16 – Updates to Terms of Reference and Work Plan of MET SG, MET/R WG to participate in an annual schedule of quarterly coordination meetings for the Chairs of MET SG and its contributory working groups;

4.3.2 Noting that APANPIRG/31 did not adopt a specific Conclusion based on the MET SG/24 Draft Conclusion MET SG/24-02: APAC Regional Air Navigation Plan (ANP), Volume III, but that APANPIRG/31 suggested MET SG should progress with its development of a proposal for amendment to the ANP, Volume III, MET/R WG to further support the MET SG with development of MET-specific requirements in the ANP, Volume III; and

5. Coordination between MET and ATM services**Updates on APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations**

5.1 The meeting reviewed the proposed updates to the APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations, and agreed that MET/R WG members should further review the proposed updates, including the proposed updates to the format for the Appendices (1 and 2), the document maintenance procedure and the method of publication, and encouraged feedback to the ICAO RO MET no later than 11 June 2021 [ACTION 10/01].

5.2 The meeting also requested the ad-hoc group, comprising members from Australia, China, Hong Kong, China, Japan (rapporteur), Republic of Korea, Singapore, Thailand, Vietnam and IATA, to finalize the proposed updates to the guidance for further presentation to, and possible approval by,

the MET SG/25 meeting in July 2021 [ACTION 10/02], and the ICAO (RO MET) to consider the proposed format for publishing the guidance on the ICAO APAC Office web page [ACTION 10/03].

5.3 In view of the discussion above, the meeting formulated the following Draft Conclusion, for possible adoption by the MET SG/25 meeting:

Draft Conclusion MET/R WG/10/x: *Update on Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations*

That, the MET SG approves the updates to the *APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations*, for use by States, including the proposed updates to the format for the Appendices (1 and 2), the document maintenance procedure and the format for publishing the guidance on the ICAO APAC Office Website

Survey of State Meteorological Information Supporting Air Traffic Management

5.4 The meeting reviewed the *Survey of State Meteorological Information Supporting Air Traffic Management* proposed by the dedicated ad hoc group and recalled that MET SG/24 had already approved the terms of reference for this work and the survey questionnaire in its Conclusion MET SG/24-03: *Survey of State Meteorological Information Supporting Air Traffic Management*.

5.5 The meeting further noted that MET SG had approved circulation of the survey questionnaire for States to respond in early 2021. The Chair informed the meeting that the circulation of the survey questionnaire had been delayed somewhat due to the ongoing disruptions caused by the COVID-19 pandemic, and invited the meeting to agree to revise the proposed circulation timeline and to conduct the survey via ICAO State letter and using an online survey tool in August 2021 [ACTION 10/04].

5.6 In view of the discussion above, the meeting adopted the following Decision:

Decision MET/R WG/10/x: *Survey of State Meteorological Information Supporting Air Traffic Management*

That, the MET/R WG approves circulation of the survey questionnaire (at Attachment A to WP/06) for responses from APAC States in August 2021

Note: There has been delay from ICAO Regional Office in circulating the State Letter.

APAC User Requirements for SWIM-based MET Information Services Supporting ATFM

5.7 The meeting reviewed the draft *APAC User Requirements for SWIM-based MET Information Services Supporting ATFM*, prepared by Australia, Hong Kong China and Thailand, and recalled that MET SG/24 had already approved the terms of reference for this work in its Conclusion MET SG/24-13: *Development of APAC User Requirements for SWIM-based MET Information Services Supporting ATFM*.

5.8 The meeting also reviewed the proposed collaborative approach, involving both MET and ATFM experts, by which the dedicated ad hoc group, comprising MET and ATFM subject matter experts from Australia, Hong Kong China, Japan, Pakistan, Republic of Korea, Singapore, Thailand, Vietnam, CANSO, and IATA, would identify use cases and user requirements.

5.9 Based on further discussion, the meeting requested the ad hoc group to review the proposed

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approach and document in consideration with the following:

- Results from the *Survey of State Meteorological Information Supporting Air Traffic Management* (as discussed above at para. 5.4 to 5.6);
- Related global discussion and plan led by ICAO MET Panel and relevant groups;
- Define the meaning of “use case”;
- Ensure the document does not infer any obligation on States to implement the SWIM-based MET Information Services described; and
- Coordinating its work with other related sub groups and working groups.

5.10 In view of the discussion above, the meeting proposed appropriate updates to the relevant parts of the MET/R WG work plan.

5.11 The meeting reviewed several Information Papers on great initiatives undertaken by States to strengthen the relationship and collaboration between MET and ATM community, and planning and implementation of MET service to support ATM operations.

6. Review of MET/R WG work program and terms of reference

6.1 The meeting recalled that the MET SG/24 approved updates to the MET/R WG terms of reference and work plan with its adoption of Decision MET SG/24-18: *Updates to terms of reference and work plan of and MET/R WG, MET/IE WG and MET/S WG.*

6.2 Recalling the discussion in the Webinar (Agenda Item 2, SP/02) on how to analyse the impact of ATM-tailored MET service on ATM decisions and flight operations, the meeting decided to include a new task in the work plan for further development of the *APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations.*

6.3 The meeting recalled the lead on SIGMET coordination activities in the APAC Region had moved to the MET/S WG. However, under its terms of reference, the MET/R WG will continue to assist MET/S WG and MET/SG on user requirements on integration and expansion of SIGMET coordination activities among States/Administrations.

6.4 Based on the discussions of the meeting and some updates provided by participants, the meeting proposed a number of updates to the terms of reference and work plan for review and possible approval by MET SG/25. All proposed updates are indicated in the MET/R WG terms of reference and work plan at the **Appendix B** to the Report on MET/R WG/10.

6.5 In view of the discussion above, the meeting formulated the following Draft Conclusion:

Draft Conclusion MET/R WG/10/x – *Updates to the MET/R WG Terms of Reference and Work Plan*

That, the MET SG approve the proposed updates to the MET/R WG Terms of Reference and Work Plan as indicated at the Appendix B to the MET/R WG/10 Report

7. Next Meeting

7.1 The meeting noted that the MET/R WG work plan included (at Deliverable 5) a seminar on regional implementation of MET information to support ATM operations.

7.2 In view of the above, the meeting decided to tentatively schedule the next meeting, MET/R WG/11, in conjunction with a MET/ATM seminar, in approximately one-year (i.e., 3rd or 4th week of May 2022). Depending on the prevailing global situation with respect to travel restrictions, the meeting would be conducted either online or in person at the ICAO APAC Office.

8. ACTION BY THE MEETING

8.1 The meeting is invited to:

- a) note the information in this paper;
- b) propose further updates to the Terms of Reference, Future Work Programme and/or Task List.

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APPENDIX A**TASK LIST – MET/R WG/10**

TASK No.	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS/REMARKS
01	Review the proposed updates (to the <i>APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations</i>), including the proposed updates to the format for the Appendices (1 and 2), the document maintenance procedure and the method of publication, and provide feedback to the ICAO RO MET [Ref: MET/R WG/10 Report, 5.1]	no later than 11 June 2021	MET/R WG members	In progress
02	Finalize the proposed updates (to the <i>APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations</i>) and present a proposal for review and possible approval by the MET SG/25 meeting. [Ref: MET/R WG/10 Report, 5.2]	July 2021	Ad hoc group, comprising members from Australia, China, Hong Kong, China, Japan (rapporteur), Republic of Korea, Singapore, Thailand, Vietnam and IATA	In progress
03	Consider the proposed format for publishing the updates (to the <i>APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations</i>) on the ICAO APAC Office web page. [Ref: MET/R WG/10 Report, 5.2]	July 2021	ICAO (RO MET)	In progress
04	Conduct the <i>Survey of State Meteorological Information Supporting Air Traffic Management</i> via ICAO State letter and using an online survey tool. [Ref: MET/R WG/10 Report, 5.5]	August 2021	Ad hoc group and Secretariat	In progress

OUTSTANDING TASK LIST – MET/R WG/09

TASK No.	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS/REMARKS
01	Publicise the SIGMET Guide and, in particular, the guidance indicating the importance of exchanging special air-reports between airlines, ATS units and MWOs (and aerodrome meteorological offices (AMOs)) in support of improved SIGMET service and flight safety, by way of ICAO State letter (and/or other channels) with distribution to pilots and ATS units supported by States and relevant organizations, as appropriate.	July 2020	Secretary and MET/R WG members	In progress

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APPENDIX B**ICAO ASIA AND PACIFIC METEOROLOGICAL REQUIREMENTS WORKING GROUP
(MET/R WG)****TERMS OF REFERENCE AND WORK PLAN**

Editorial note: Proposed updates show deleted text using strikethrough (~~text to be deleted~~), and added text with grey shading (text to be inserted).

TERMS OF REFERENCE

DESCRIPTION	
Name and establishment of 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 in accordance with the working arrangements and instructions provided in the APANPIRG Procedural Handbook.
Reporting mechanism	The MET/R WG shall report its work progress and co-ordination requirements to the MET SG, normally in the form of 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;

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]

DESCRIPTION	
	<p>d) Facilitate the monitoring and implementation of 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;</p> <p>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</p> <p>f) Report to the MET SG for further co-ordination through the ICAO Secretariat with APANPIRG and other relevant bodies.</p>

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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
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 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. Input to the draft update to the Regional SIGMET Guide to assist States in aligning cross-FIR boundary SIGMET information in coordination with MET/S WG
2. Documented analysis of MET information used in the Region specifically to support ATM operations

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3. Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ATM Plan
4. Draft regional guidance material for tailored MET information supporting ATM operations
5. Seminar on regional implementation of MET information to support ATM operations
6. 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
7. SIGMET coordination activities in APAC Region; Coordinate on the next steps to promote integration and expansion of SIGMET coordination activities among States/Administrations.
8. Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM

MILESTONES	By date	Responsibility	Status
Deliverable 1: Input to the draft update to the Regional SIGMET Guide to assist States in aligning cross-FIR boundary SIGMET information in coordination with MET/S WG			
1.1 Input to First draft of guidance for inclusion in Regional SIGMET Guide for review by MET/R WG members (taking into consideration lessons learnt from the SIGMET coordination projects occurring in the Region)	next meeting of MET/R WG	Ad hoc group 1: Japan, Singapore and Secretariat in coordination with MET/S WG	Completed
1.2 First draft of guidance for inclusion in Regional SIGMET Guide for review by MET SG	MET SG/22	Secretariat in coordination with MET/S WG, MET SG	Completed
1.3 Submit the latest version of the guidance for possible approval by MET SG	MET SG/23	Ad hoc group 1: Japan, Singapore and Secretariat in coordination with MET/S WG	Closed-Completed

MILESTONES	By date	Responsibility	Status
Deliverable 2: Analysis of MET information used in the Region specifically to support ATM operations			
2.1 Survey on regional requirements for MET information to support ATM operations	Oct/Nov 2015	Secretariat	Completed
2.2 Preliminary draft documented analysis of MET information used in the Region specifically to support ATM operations	Jun 2016	Secretariat and Chair	Completed
2.3 Final draft documented analysis of MET information used in the Region specifically to support ATM operations	Next meeting	Ad hoc group 2: Australia (Rapporteur), Singapore, New Zealand, China, Japan, Thailand, Hong Kong China, Viet Nam	Completed
2.4 Develop a revised questionnaire and conduct a survey, taking into account outcomes from the review of the survey results by the MET SG and ATM/SG and how this can support the next MET/ATM seminar	By 10 June 2019	Ad hoc group 2	Closed-Completed
2.5 Submit draft survey questionnaire to MET SG/23 for approval	By 10 June 2019 for MET	As above	Closed-Completed

	SG/23 on 17 June		
2.6 Revise questionnaire taking into account outcomes from MET/R WG/9 and further feedback and comments from the WG members	29 May 2020	As above	To begin Completed
2.7 Conduct a small trial-run of the survey questionnaire	29 Jun 2020	As above	To begin Completed
2.8 Submit final draft survey questionnaire to MET SG/24 for approval	29 Jun 2020	As above	To begin Completed
2.9 Conduct the Regional survey (via State Letter and Online)	Q3-4 2020 or as decided by MET SG Aug 2021	As above	To begin

MILESTONES	By date	Responsibility	Status
Deliverable 3: Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ATM Plan			
3.1 First draft of a list on the MET information or services necessary to support implementation of each element of the Asia/Pacific Seamless ATM Plan	Jul 2016 ATM/SG	Ad hoc group 3: Australia, China, Hong Kong, China, and Japan, Thailand, Singapore (Rapporteur)	Completed
3.2 Revise the draft list and present to ATM/SG/5	17 July 2017	Ad hoc group 3	Completed
3.3 Further development pending outcomes of ICAO A40 review of GANP 2019	TBD	TBD	On hold

MILESTONES	By date	Responsibility	Status
Deliverable 4: Draft regional guidance material for tailored MET information supporting ATM operations			
4.1 List of tailored MET information or services used in the region to support ATM operations	Jun 2016	Ad hoc group 4: Australia, China, Hong Kong, China, IATA, Japan (Rapporteur), Republic of Korea, Singapore, Thailand and Viet Nam	Completed
4.2 List of sub-regional exchange of MET information and associated agreements that facilitate ATM operations, particularly where major traffic flows affect multiple FIRs	Jun 2016	As above	Completed
4.3 First draft of regional guidance material for tailored MET information supporting ATM operations	Aug 2016	As above	Completed
4.4 Draft of version 2 produced, based on survey results and outcomes/recommendations provided by MET SG and/or ATM/SG	Jun 2018	As above	Completed
4.5 Submit the regional guidance material for tailored MET information supporting ATM	By 10 June 2019	As above	Closed- Completed

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operations for possible approval by MET SG and inform the ATM/SG	for MET SG/23 on 17 June		
4.6 Review the regional guidance material for tailored MET information supporting ATM operations and propose updates as necessary for possible approval by MET SG	Next meeting of MET/R WG	As above	Closed-Completed
4.7 Review the working draft guidance and provide comment to the ICAO RO MET	12 June 2020 11 June 2021	MET/R WG	To begin
4.8 Finalize the updated guidance for approval at the MET SG in July 2020 July 2021	29 June 2020 July 2021	Ad-hoc group, consisting of Australia, China, Hong Kong, China, Japan (rapporteur), Republic of Korea, Singapore, Thailand, Vietnam and IATA	To begin
4.9 Consider expanding the Guidance document to define a framework to capture post operational analysis on the impact of tailored met information on ATM decisions	Next MET/R WG meeting	Ad hoc group	To begin

MILESTONES	By date	Responsibility	Status
Deliverable 5: Seminar on regional implementation of MET information to support ATM operations			
5.1 Plan for future seminar on regional implementation of MET information to support ATM operations (May 2020) – initial proposal for MET SG/23 to consider	By 10 June 2019 for MET SG/23 on 17 June	Chair and Secretariat (organizing committee)	On hold pending further advice from MET SG
5.1 Plan for future seminar on regional implementation of MET information to support ATM operations	Next MET/R WG	Chair and Secretariat	To begin

MILESTONES	By date	Responsibility	Status
Deliverable 6: 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			
6.1 First draft of proposed APAC ANP Volume III improvements (pending outcomes from the ICAO eANP WG development on ANP Vol III common template) Support MET SG with development of MET-specific requirements in the ANP, Volume III	TBD As required	TBD MET/R WG	On hold In progress

MILESTONES	By date	Responsibility	Status
Deliverable 7: SIGMET coordination activities in APAC Region; Coordinate on the next steps to promote integration and expansion of SIGMET coordination activities among States/Administrations.			
[Revise the deliverable to focus on determining the end-users' requirements; and taking into account		MET-group Chairs considered this task is	

the additional proposals to be presented in MET/R WG/9: WP/09 – <i>Review and update of the Work Programme</i>]		more appropriate to be included under the work plan of MET/S WG	
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MILESTONES	By date	Responsibility	Status
Deliverable 8: Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM			
[Establish a new deliverable taking into account the proposals to be presented in MET/R WG/9: WP/04 – <i>APAC User Requirements for SWIM-based MET Information Services Supporting ATFM</i>] Note: <i>this row will be removed after agreement by the meeting on the points below</i> Also take into consideration outcomes from MET/R WG/10, esp. WP/07 – <i>APAC User Requirements for SWIM-based MET Information Services Supporting ATFM</i> (Australia, Hong Kong China, and Thailand), including the proposed collaborative approach (flow chart) at 2.3, and the MET/R WG/10 suggestions as follows: i) take into consideration the results of the Survey of State MET Information Supporting ATM at WP/06; ii) identify related global discussion and plan led by ICAO MET Panel and relevant groups; iii) define the meaning of “use case”; and iv) ensure readers understand the document does not represent an obligation for States to implement the SWIM-based MET Information Services	Next MET/R WG meeting	An ad-hoc group comprising SMEs from both MET/R WG and ATFM/SG Rapportuer (Marco)	To begin In progress
8.1 In coordination with SWIM TF and other related sub groups, working groups, etc., identify: i) and develop the specifications of future SWIM-based MET information affecting services required to support ATFM operations; ii) how often these products be provided and rules for updates to meet the ATFM needs; and (iii) identify any other information required by ATFM and gaps to meet the needs of ATFM users		Ad-hoc group 8 (see below)	To begin In progress
8.2 Identify MET and ATFM data to be exchanged using SWIM-based Information Exchange Service		Ad-hoc group 8 (see below)	To begin In progress
8.3 Based on the findings (above), develop APAC use cases and user requirements document for future SWIM-based MET information services supporting ATFM		Ad-hoc group 8 (see below)	To begin In progress

Ad-hoc group 8

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State / Administration / IO	NamePosition	Position and/or Organisation	Expertise
Australia	Jesper Bronsvort	Airservices Australia	ATFM
Australia	Ashwin Naidu	BOM	MET
CANSO	Stuart Ratcliffe	CANSO	ATFM
Hong Kong China	Marco Kok	HKO	MET/SWIM
Hong Kong China	(Rapporteur) Peter Chadwick	Senior Air Traffic Control Specialist (Strategic Planning) / HKCAD	ATFM
Hong Kong China	(Mr) Anfernee Poon	Project Officer / HKCAD	ATFM
IATA	John Moore	IATA	ATFM/MET
Japan	SHIGENOBU Toshiya ITOU Miho	JCAB	ATFM
Japan	YASUI Kazuki IKEDA Michiko	JMA	MET
Pakistan	Fazal Ur Rehman	PCAA	ATFM
Pakistan	Jan Muhammad Syed Ali Baqadar Shah	PCAA	MET
Republic of Korea	Dong-won, LEE	Assistant of Director / KMA	MET
Republic of Korea	Jiwon, LEE	Assistant of Director / KMA	MET
Singapore	Clarence Foo	Head, ATM development/CAAS	ATFM
Singapore	Zhang HuanBin	Head, ATC Specialist/CAAS	ATFM
Singapore	Aw Ying Kit	Senior Engineer, ATM Systems /CAAS	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	Mr. Nguyen Van Dung	VATM	MET/ATFM
