International Civil Aviation Organization

MIDANPIRG/18 and RASG-MID/8 Virtual Meetings

(15 - 22 February 2021)

Agenda Item 5.2.6: Specific Air Navigation Issues: MET

WORLD AREA FORECAST SYSTEM UPDATES

(Presented by the Secretariat)

SUMMARY

This paper presents the outcome of the Ninth Meeting of the MIDANPIRG MET Sub-Group (MET SG/9), in particular, World Area Forecast System (WAFS) updates.

Action by the meeting is at paragraph 3.

REFERENCES

- MET SG/9 Report
- MSG/7 Report

1. INTRODUCTION

1.1 The Ninth Meeting of the Meteorology Sub-Group of the Middle East Planning and Implementation Regional Group (MET SG/9) was held virtually from 7 to 9 December 2020. The meeting was attended by a total of fifty-four (54) participants, from fourteen (14) States (Austria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, United Kingdom and Yemen) and three (3) Organizations (ACAO, IFALPA and WMO). The meeting agreed on two (2) Draft Conclusions and one (1) Draft Decision for consideration by the MIDANPIRG/18-RASG-MID/8 meeting.

2. DISCUSSION

WAFS updates

2.1 The meeting may wish to recall that MET SG/9 was apprised of developments related to Secure Aviation Data Information Service (SADIS) such as upgrading their platform to cloud-based technology and increased bandwidth allowing for World Area Forecast System (WAFS) gridded data sets to be downloaded in a fraction of a second.

2.2 In addition, IWXXM data that is internationally disseminated and sent to Regional OPMET Centre (ROC) London are published on SADIS. This data is provided on SADIS as sets of nested zipped files, with 1-minute, 5-minute and hourly files available (e.g. 5-minute zip file will contain up to five of the 1-minute files if there is a file for each minute). SADIS users were notified when the data is available via a SADIS administrative message.

2.3 MET SG/9 noted that the horizontal resolution of WAFS hazard data sets for ICING, TURBULENCE and CUMULONIMBUS was increased from 1.25 degrees to 0.25 degrees. Furthermore, the new turbulence field, TURBULENCE SEVERITY, forecasts both clear air turbulence and orographic turbulence and provide their forecasts as an eddy dissipation rate (EDR). In addition, the new icing field, ICING SEVERITY, gives a categorical assessment of icing as nil, trace, slight, moderate and severe. Due to implementation delays at one of the WAFCs, between November 2020 and March 2021 the data will not be available until approximately 6-hours after the model data time (one hour later than required in Annex 3) and will have reduced operational resilience.

2.4 Based on the above, the following Draft MIDANPIRG Conclusion is proposed, replacing MET/SG Draft Conclusion 9/1:

Why	To utilize improved, higher resolution WAFS Hazard Data to meet the needs of aviation stakeholders.
What	0.25 Degree WAFS Hazard Data
Who	SADIS Users
When	Not later than 17 March 2021

DRAFT MIDANPIRG CONCLUSION 18/XX: 0.25 DEGREE WAFS HAZARD DATA

That, the SADIS users be invited to start integrating the new 0.25 degree WAFS hazard data into their systems and software as soon as possible, but not later than 17 March 2021.

2.5 MET SG/9 also noted planned upgrades to the WAFS in November 2023 which included a horizontal resolution of 0.25 degrees for all WAFS fields as well as a vertical resolution of 1000ft. In addition, the temporal resolution will increase significantly to better accommodate operators' needs. SIGWX forecasts between WAFCs London and Washington will be harmonized and produced with a shorter lead time. This information will be provided at 3-hourly intervals out to 2 days and better suited for the needs of short haul and ultra-long haul operations. Lastly, the meeting noted that in order to manage the significant increase in volume of data the delivery mechanism will be upgraded and be SWIM-compliant using web-coverage services and application programming interfaces.

2.6 Given the aforementioned, the following Draft MIDANPIRG Conclusion is proposed replacing MET/SG Draft Conclusion 9/2:

Why	To plan on utilizing improved higher resolution WAFS Data to meet the needs of aviation stakeholders.
What	November 2023 WAFS Upgrades
Who	SADIS Users
When	Before November 2023

DRAFT MIDANPIRG CONCLUSION 18/XX: NOVEMBER 2023 WAFS UPGRADES

That, the SADIS users familiarize themselves with the proposed WAFS and SADIS changes planned for November 2023, and commence preliminary discussions with their technical departments about how their organization could adapt to these technological changes.

2.7 For more information the meeting is invited to access https://www.metoffice.gov.uk/services/transport/aviation/regulated/wafs-2022.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) endorse Draft Conclusions at paragraphs 2.4 and 2.6.

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