



*International Civil Aviation Organization*

**MIDANPIRG Meteorology Sub-Group  
Eighth Meeting (MET SG/8)**

*(Cairo, Egypt, 1-3 July 2019)*

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**Agenda Item 4.1: Review of the implementation of WAFS and SADIS**

SADIS UPDATE

(Presented by the ICAO Secretariat on behalf of the SADIS Provider)

**SUMMARY**

This paper provides an update on changes to the World Area Forecast System (WAFS) and changes in the operation of the WAFS London operated Secure Aviation Data Information System (SADIS) since the last meeting of the Middle Eastern MET Sub Group in November 2017.

Action by the meeting is at paragraph 4.

**1. INTRODUCTION**

1.1 This paper reports on changes in the provision of data on SADIS and changes in the operation of SADIS since the seventh meeting of the MIDANPIRG MET Sub Group. Since SG/7 there have been four meetings of the Meteorological Operations Working Group (WG-MOG):

MOG7 (WAFS) and MOG6 (SADIS) in Offenbach, Germany in April 2018 and;  
MOG9 (WAFS) and MOG10 (SADIS, in Toulouse, France during April 2019.

1.2 Users of SADIS are encouraged to review the SADIS and WAFS 'Reference Documents' which are all published on the WG-MOG public webpage:  
<https://www.icao.int/airnavigation/METP/Pages/Public-Documents.aspx>

1.3 Appendix A provides a list of SADIS users located within the MID region, and is a subset of the latest "Status of Implementation of SADIS" document that can be found on the WG-MOG public webpage.

## **2. SADIS DATA**

### **2.1 SADIS Data Catalogue**

2.1.1 A catalogue of data usually present on SADIS has been created (from data obtained during the February 2019 monitoring period) so that missing TAF and METAR data can be more easily identified. The latest edition of the catalogue is hosted within the documentation section on the SADIS server, and the WG-MOG public webpage (see 1.2 for the link).

2.1.2 If a SADIS user identifies that some METAR or TAF data is absent, the list should be consulted to see if it is usually present before reporting it to the SADIS Manager. There are two courses of action:

- The aerodrome is listed: the SADIS manager will raise the issue with ROC London who will investigate and work with the other ROCs to try and restore the data.
- If the aerodrome is not listed: the data feeds will be checked to see if the data is available however it may be necessary for the SADIS user to contact the State in question to ask for it to be disseminated internationally.

### **2.2 Space Weather data on SADIS**

2.2.1 In November 2019, Space Weather forecasts are due to commence. A new directory has already been set up on SADIS in preparation, and administrative messages will be issued on SADIS to notify users once this new data stream has begun. Further information can be found in the latest edition of the SADIS User Guides (SUG).

### **2.3 IWXXM Data**

2.3.1 The SADIS provider intends to make IWXXM (ICAO Meteorological Information Exchange Model) format data available on SADIS by November 2020, in line with the ICAO Annex 3 Amendment 78 requirements for States to produce OPMET data in this format.

2.3.2 In order to facilitate this change, the SADIS Provider is planning to make IWXXM version 3.0 (or later) data available to all SADIS users from approximately November 2019. Please note that only data that is being internationally disseminated and provided by ROC London will be published, so it is expected that initially the data will be sparse, and the volume of data will gradually increase as November 2020 approaches.

2.3.3 The SADIS provider is currently reviewing whether the data will be included on the main SADIS ftp server, or whether it be located initially on a second “twin” server. Once this new IWXXM data source become available, SADIS users notified of the changes via administrative message.

### **2.4 WAFC backups**

2.4.1 The WAFC Provider States have continued to test their SIGWX backup procedures to ensure that if one WAFC is unable to produce SIGWX forecasts (in the BUFR-code and PNG-chart format) then the data will be provided by the other WAFC. Routine backup tests are conducted quarterly, with the results posted on the WG-MOG public webpage in the document called ‘Forthcoming and Historical Record of WAFC Backup Tests’.

2.4.2 Backup tests during the period of this report have all been successful. There was one additional scheduled SIGWX backup events on the VT 12 UTC on 6 December 2018, so that WAFC Washington could undertake some system upgrade work. This was followed by an additional unplanned backup for the 18 UTC run due to the upgrade work taking longer than expected. During both backups, all data was issued on time.

## 2.5 WAFS Verification Data.

2.5.1 Verification data for harmonized WAFS gridded upper air forecasts for Clear Air Turbulence potential and Cumulonimbus cloud forecasts is available from the "WAFC London Performance Indicators" webpage: <http://www.metoffice.gov.uk/aviation/responsibilities/icao>. Information on the timeliness of these data sets is also provided.

2.5.2 Verification data for harmonized WAFS gridded upper air forecasts for Icing potential is available from the "WAFC Washington webpage: <http://www.emc.ncep.noaa.gov/gmb/icao/>.

2.5.3 The verification data should be used in conjunction with the guidance material available on the WG-MOG public webpage (in the MOG-WAFS Reference Documents section).

## 3. SADIS Operation

### 3.1 SADIS Bandwidth Upgrade

3.1.1 The bandwidth allocated to SADIS received a large upgrade in mid-2018 which removed all download speed restrictions (previously downloads were restricted to 42Mbit/sec bursting 60Mbit/sec with an individual client download speed of 4096Kbit/s). This change corresponded to a major upgrade to the SADIS providers own internet connection (to 3Gbps) and a fundamental change to the way internet traffic is prioritized and managed. SADIS data is of a sufficiently high priority that it will not be impacted on severe weather days when the SADIS providers own website is experiencing extremely high levels of demand.

3.1.2 This bandwidth upgrade means that SADIS downloads now generally take place at the speed of the users own internet connection, and there should no longer be any download slowdown that when the new gridded data sets arrive.

### 3.2 SADIS Efficacy Survey

3.2.1 During the second half of 2018 the SADIS user (efficacy) survey was carried to check that SADIS provides an appropriate level of service to its users.

3.2.2 A write up of the survey results can be found here: <https://www.icao.int/airnavigation/METP/TenthMeetingoftheMOGDocuments/Forms/AllItems.aspx> in SN01 and shows a high level of satisfaction with the service provided.

3.2.3 The SADIS provider would like to thank those who responded, and would like to encourage all SADIS users to participate in the 2019 Survey. Please note individual organizations are encouraged to respond to the survey directly instead of a single State response.

3.2.4 The 2019 Survey commenced in early July 2019, and notifications about the survey will be sent out via SADIS administrative messages, as well as a State Letter.

***Suggested Action:** Note this information. Please encourage SADIS users within your State to participate in the survey.*

### 3.3 **Trial of Low-Level Area Forecasts in graphical format on SADIS**

3.3.1 The group may recall at the MET SG/22 that a trial of Low Level Area forecasts in graphical format (GAMETs) was taking place on SADIS. At METP-WG/MOG 10 the decision was made to extend this trial until 2024 unless an IWXXM equivalent product becomes possible (through the creation of new IWXXM low level significant weather components) and is made available through a centralized source.

3.3.2 At present eleven States are providing their low-level area forecast charts, and the participation of additional States or ANSP's is invited. Please note that a proposal was put to, and accepted by METP/4 (see METP/4 report, Recommendation 6/11 and Appendix J) to change the wording in Annex 3 to encourage the dissemination of area forecasts for low level flights over aeronautical fixed services and Internet based services.

3.3.3 If you wish to participate in the trial, please contact the SADIS manager and she will provide information on the specific file naming and sizing conventions that must be adhered to, and instructions on how to transmit the files.

***Suggested action:** Note this information. Contact your SADIS Workstation provider (or IT department if bespoke software is used to access SADIS) to ensure that you have access to these products. If interested in joining the trial please e-mail [SADISmanager@metoffice.gov.uk](mailto:SADISmanager@metoffice.gov.uk) for information*

### 3.4 **SADIS Workstation Evaluations**

3.4.1 The SADIS provider has put together a SADIS evaluation guide which users can use to evaluate their own systems. The intention of this guide is to assist users in identifying problems with their SADIS data visualization system/software by clearly showing what constitutes an acceptable standard. Users can then feedback any "non-compliance" issues to their software provider.

3.4.2 The new guide is called the 'SADIS Workstation Evaluation Guide' and is hosted in the documentation section on SADIS as well as on the WG-MOG public webpage.

3.4.3 Individual SADIS Workstation evaluations can still be carried out by the SADIS provider if required, however this work will be chargeable. Please contact the SADIS to discuss costs and an evaluation schedule should this be required.

***Suggested action:** Review the new SADIS workstation evaluation guide and consider using it to check your own systems provide the correct functionality.*

### 3.5 **SADIS Backup Account.**

3.6 Users are encouraged to establish and regularly test backup accounts with the alternative provider (WIFS) to be used in the rare event SADIS is unavailable. Information can be found on the on the WG-MOG public webpage and is titled "Obtaining access to WIFS as a backup to SADIS FTP".

**3.7 The next generation SADIS system**

3.7.1 Development is commencing to build the next generation SADIS system, which is planned to become operational in November 2022. The new system will provide the new larger WAFS gridded data sets in a SWIM compliant manner using APIs and cloud technology. Further technical information on the new system will be provided at the MET SG meeting in 2020.

3.7.2 The SADIS provider is now at a stage where it would like to engage with National Met Services who are SADIS users within the Asia Pacific Region. This would take the form of an initial discussion about the technology being developed and an exploration of the individual user requirements and would help the SADIS provider to ensure that the system is fit for purpose and meets the needs of its users.

***Suggested action:** Organizations interested in talking to the SADIS Provider about the technology being developed for the next generation SADIS system should contact [SADISmanager@metoffice.gov.uk](mailto:SADISmanager@metoffice.gov.uk)*

**4. ACTION BY THE MEETING**

4.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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### APPENDIX A – Status of Implementation of SADIS within the Asia-Pacific region

*Note. – Non-operational approved users, and those who no longer take the service (for whatever reason) or haven't used SADIS for at least a two year period are indicated in italics*

Key:

*SADIS FTP = operational user ('X') of SADIS FTP service*

*\* = approved SADIS hardware and/or software supplier*

ICAO Contracting State		User		Location	SADIS FTP
No	Name	No	Name	Name	
105.	Bahrain	181.	Ministry of Transportation Civil Aviation Affairs	Bahrain International Airport	X
106.	Egypt	182.	Meteorological Authority	Cairo Airport	X
	Egypt	183.	Egyptian Ministry of Defence	Cairo	X
107.	<i>Iran (Islamic Republic of)</i>		<i>National Meteorological Service</i>	<i>Teheran</i>	
108.	Iraq	184.	Iraq Meteorological Organization And Seismology	Baghdad Airport	X
	Jordan	185.	Meteorological Department	Queen Alia Airport	X
109.	Kuwait	186.	Meteorological Department	Kuwait	X
	<i>Libya</i>		<i>National Meteorological Centre</i>	<i>NMC - Eswani</i>	
	<i>Libya</i>		<i>National Meteorological Centre</i>	<i>Tripoli Int. Airport</i>	
	<i>Libya</i>		<i>National Meteorological Centre</i>	<i>Binena Int. Airport</i>	
110.	Oman	187.	Public Authority for Civil Aviation/ Meteorological Department	Salalah Airport	X
	Oman	188.	Public Authority for Civil Aviation/ Meteorological Department	Seeb Airport	X
111.	Qatar	189.	Civil Aviation Authority - Meteorology Department	Doha Airport	X
	Qatar	190.	Civil Aviation Authority - Meteorology Department	Doha	X
112.	Saudi Arabia	190.	General Authority of Meteorology and Environmental Protection (GAMEP)	Jeddah	X
	Saudi Arabia	191.	General Authority of Meteorology and Environmental Protection (GAMEP)	Jeddah Airport	X
	Saudi Arabia	192.	General Authority of Meteorology and Environmental Protection (GAMEP)	Riyadh Airport	X
	<i>Saudi Arabia</i>		<i>Saudi Airlines</i>	<i>Jeddah Airport</i>	
113.	Sudan	193.	Sudan Meteorological Authority	Headquarter, Khartoum	X
	<i>Syrian Arab Republic</i>		<i>National Meteorological Service</i>	<i>Damascus</i>	
	<i>Syrian Arab Republic</i>		<i>National Meteorological Service</i>	<i>Aleppo</i>	
114.	United Arab Emirates	194.	National Centre for Meteorology and Seismology (NCMS)	Dubai International Airport	X
	United Arab Emirates	195.	National Centre for Meteorology and Seismology (NCMS)	Dubai International Airport	X
	United Arab Emirates	196.	National Centre for Meteorology and Seismology (NCMS)	Dubai International Airport	X
	<i>United Arab Emirates</i>		<i>Civil Aviation Authority</i>	<i>Headquarters, Abu Dhabi</i>	
	<i>United Arab Emirates</i>		<i>Air Force and Air Defence Meteorological Department</i>	<i>Abu Dhabi (Al-Dhafra Air Base)</i>	
115.	Yemen	197.	Civil Aviation and Meteorological Authority (CAMA)	Sana'a Airport	X
	Yemen	198.	National Meteorological Service (YMS/CAMA)	Sana'a	X

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