



International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
**Eleventh Meeting of the GREPECAS Aeronautical Meteorology Subgroup
(AERMETSG/11)**
Lima, Peru, 28 to 30 November 2011

**Agenda Item 2: Review of the status of implementation of the World Area Forecast System
(WAFS) in the CAR/SAM Regions**

WAFS INTERNET FILE SERVICE (WIFS)

(Presented by United States)

SUMMARY

This Information Paper provides a brief overview of the World Area Forecast System (WAFS) Internet File Service (WIFS).

1. Introduction

1.1 This paper provides an overview of the World Area Forecast System (WAFS) Internet File Service (WIFS), which is provided by the United States National Weather Service (NWS) Aviation Weather Center (AWC) as a highly reliable Internet source of meteorological products. The purpose of WIFS is to replace the International Satellite Communication System (ISCS) as a means to support the provision of WAFS information via use of the Public Internet.

2. Discussion

2.1 Configuration of Data Availability

2.1.1 WIFS provides access to WAFS data and products that are currently broadcast over ISCS as defined in the SADIS User Guide Annexes 1 and 4. Please refer to Annex 1(FASID Table MET 2A) for OPMET information (METAR, SPECI and TAF) available the WIFS server, and Annex 4 for the WAFS forecasts available on WIFS server. Both of these Annexes can be accessed under the Guidance Materials section of the SADIS Operations Group web-site: <http://www2.icao.int/en/anb/met-aim/met/sadisopsg/Pages/default>. If an OPMET product is listed as being available under Annex 1 but cannot be found within the OPMET data files in WIFS, send an email to wifs.admin@noaa.gov to report the issue.

2.2 WAFS Data

2.2.1 WIFS provides upper-air gridded forecasts in two formats, GRIB1 and GRIB2. GRIB1 is the format that has been used for many years. Due to a need to expand the data sets and increase the resolution, ICAO approved the use of GRIB2 for encoding WAFS data sets.

2.2.1.1 Note that GRIB1 data is scheduled to be terminated in 2013 in accordance with the long term plan of the World Area Forecast System Operations Group (WAFSOPSG). Users are encouraged to periodically check the WAFSOPSG bulletin board for changes in operations and policy. Users receiving this data must have a data processing system, such as the WAFS workstation, which can read, decode, and manipulate data for the user's specific purpose.

2.2.2 **GRIB1 Data**

2.2.2.1 The GRIB1 data is prepared by WAFC Washington and coded in the WAFS thinned GRIB format. Gridded forecasts are prepared four times daily, valid at 6, 12, 18, 24, 30 and 36 hours after synoptic data time (0000, 0600, 1200, and 1800 UTC). Forecasts are made available for transmission as soon as technically feasible, but no later than six (6) hours after the standard time of observation.

2.2.3 **GRIB2 Data**

2.2.3.1 The same data sets are available in GRIB2 that are in GRIB1 (e.g., wind, temperature, humidity, etc). In addition, Cumulonimbus (CB) Clouds, Turbulence, and Icing forecasts, are also available on a trial basis and only reside on WIFS. To obtain more information users should refer to the final report of the Sixth Meeting of the WAFS Operations Group (WAFSOPSG): <http://www2.icao.int/en/anb/met-aim/met/wafsopsg/Pages/default.aspx> .

2.2.4 **Significant Weather (SIGWX)**

2.2.4.1 The SIGWX forecasts supplied in a Portable Network Graphics (PNG) format are issued four (4) times daily, and are valid at 0000, 0600, 1200, and 1800 UTC for the areas of coverage. The SIGWX forecasts include the elements listed in ICAO Annex 3, *Meteorological Services for International Air Navigation*, Appendix 2, 1.3.3.

2.2.4.2 The SIGWX forecasts are issued using Binary Universal Form for the Representation of meteorological data (BUFR) code form, following the specifications included in WMO Publication No. 306, Manual on Codes, Volume I.2, Part B – Binary Codes. Forecasts of SIGWX prepared by WAFC Washington are issued four times daily, valid at 0000, 0600, 1200, and 1800 UTC. BUFR is a standard binary format approved by the WMO for efficient storage of meteorological features. BUFR does not provide information on how to visually represent data. However, the WAFCs have written guidance on representation, which can be found on the WAFS Operations Group web page link:

<http://www2.icao.int/en/anb/met-aim/met/wafsopsg/Pages/GuidanceMaterial.aspx>

2.2.5 **OPMET Data**

2.2.5.1 OPMET information includes Routine Aviation Weather Reports (METAR), Special Routine Aviation Weather Reports (SPECI), Terminal Aerodrome Forecasts (TAF), Significant Meteorological (SIGMET) Information and special Air-reports (AIREPs). Volcanic Ash Advisory (VAA) and Tropical Cyclone Advisory (TCA) messages are also available on WIFS. While SIGMET, VAA, and TCA are referred to as OPMET users will not find these products listed in Annex 1. These products are issued on an unscheduled basis.

2.3 **Quality Control and Customer Service**

2.3.1 Verification of Product Receipt

2.3.1.1 The WIFS provider conducts automated comparisons of data available on both WIFS and SADIS. These comparisons provide a measure of completeness of the WIFS data set.

2.3.1.2 Users with questions, or who notice missing or late data should contact WIFS customer service at either wifs.admin@noaa.gov or 1(877) 280-2811.

2.4 **How to Register for WIFS**

2.4.1 **User Authorization**

2.4.1.1 WIFS is not an open system and requires all users to be authorized for access. Authorization is granted (or denied) as part of the WIFS Registration process by the Washington WAFC Provider State's Meteorological Authority, the FAA. The main criteria for approval is that there is some type of understanding that the company or person requesting access is providing direct support to an operator in support of flight planning for international operations, and that they should fall into one of the following categories:

- WAFS Vendor
- State MET Authority
- State National Meteorological & Hydrologic Service Provider
- International Operator and U.S. Flag carriers
- Vendor listed as Enhanced Weather Information Systems (EWINS)
- Any Vendor identified in OPS SPEC in support of meteorological services for an airline

2.4.2 **WIFS Registration**

2.4.2.1 Users must complete and submit a form online at <http://www.aviationweather.gov/wifs>. Once the WIFS approving official authorizes access, the Washington WAFC will issue a user name and password which will be required to access the data. For those States that deploy multiple WIFS workstation it is strongly recommended that each be registered separately.

3. **Conclusion**

3.1 The Subgroup is invited to consider the information in this paper and switch from ISCS to WIFS before ISCS broadcast is terminated on June 30th, 2012.