



Agenda Item 3: Activities for the development of the air navigation systems/services
3.5 Aeronautical Meteorology (MET)

**CURRENT STATUS OF THE WAFS OPERATIONS IN THE CAR/SAM REGIONS
AND GRID/BUFR TRAINING WITHIN THE ISCS FOOTPRINT**

(Presented by the Secretariat)

SUMMARY

This working paper presents for review by the Meeting updated information on the requirements to the transition of the final phase of the world area forecast system (WAFS) in the CAR/SAM Regions. In order to facilitate cessation of the broadcast of T4 format charts on ISCS it is essential that States are able to make full and proper use of both GRIB and BUFR coded products. We provide information on the required training to States in the use of the workstation software.

References:

- Report of the Sixth Meeting of Directors of Civil Aviation of the Central Caribbean (C/CAR DCA/6), (Nassau, Bahamas, 2 to 4 July 2003).
- The Eleventh Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/11), (Manaus, Brazil, 3 to 7 December 2002).
- The Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/11), (Havana, Cuba, 7-11 June 2004).
- Report of the Sixth Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/6) (Brasilia, Brazil, 23 to 27 June 2003).

1. Introduction

1.1 The Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/12) held in Havana, Cuba, 7-11 June 2004, approved and updated through Conclusion 12/52, the schedule of the plan for the transition to the final phase of the world area forecast system (WAFS) in the CAR/SAM Regions, which will allow CAR/SAM States/Territories access to the global forecasts.

2. Discussion

Update of the transition plan of the WAFS in the CAR/SAM Regions

2.1 Aimed at ensuring the reception of WAFS forecasts in GRIB and BUFR code forms, which allow CAR/SAM States to access the global forecasts, the GREPECAS/12 formulated Conclusion 12/52 – Plan for the Transition to the Final phase of the WAFS in the CAR/SAM Regions – including, dates in which the CAR/SAM States/Territories should take necessary action to achieve the WAFS final phase without problems in these two Regions, as included in the **Appendix**.

2.2 Furthermore, the ICAO NACC Regional Office has received various communications from the United States on the extension of the International Satellite Communication System (ISCS) broadcasts using the X.25 Protocol. This important information was relayed to the concerned States in the CAR/SAM Regions.

2.3 Moreover, according to the latest information provided by the United States, the ISCS Provider State, indicated that they had not completed the acceptance testing of the new Transfer Communication Protocol/Internet Protocol (TCP/IP) and has decided to continue the broadcasts using the X.25 Protocol, which will run in parallel with those using the TCP/IP Protocol until the TCP/IP system has been fully accepted from the MCI Corporation. The Provider State announced that the X.25 Protocol would not be discontinued before the **end of April 2005**.

2.4 This extension will allow the continuing upgrade to the ISCS/WAFS and provide additional time for the upgrades to the VSAT equipment and the replacement of workstations with those able to process TCP/IP data.

GRIB/BUFR Training for States within the ISCS footprint

2.5 An integral part of the final phase of WAFS is that the broadcast on ISCS of all T4 products containing wind and temperature forecasts as well as significant weather forecasts will cease. It is essential that States are able to make full and proper use of the data encoded using the processed data in the form of grid-point values expressed in binary form (GRIB) and Binary Universal format for the representation of meteorological data (BUFR), which will replace these products.

2.6 On the other hand, it has been agreed in all of the ICAO regions that lie either wholly or partly within the Satellite Distribution System (SADIS) footprint, a small team initiated training to ensure that provision be made for States that required assistance and training in the use of GRIB and BUFR codes.

2.7 Over the past years, a great deal of work has been carried out by the SADIS workstation manufactures in consultation with the SADIS Provider States in order to ensure that their software fully complies with the criteria that was agreed by the Satellite Distribution System Operations Group (SADISOPSG). Similar work was carried out by the WAFS Operations Group (WAFSOPSG). In an attempt to ascertain any training requirements in the use of the GRIB and BUFR data, a task contained in the transition plan for the final phase of the WAFS called for the training in operational conversion and visualization of GRIB and BUFR messages.

2.8 The training programme that aims to ensure that all States in the CAR/SAM that uses the ISCS have the capability to make full and proper use of GRIB and BUFR coded products has already begun. These training events have been possible thanks to the support of the United States Federal Aviation Administration and the National Weather Service in coordination with ICAO and the United Kingdom Met Office. The first workshop on workstations and display of WAFS products using GRIB and BUFR code forms was held during December 2004 in the ICAO South American Regional Office in Lima and addressed to the Spanish speaking CAR/SAM States.

2.9 A similar workshop will take place in the ICAO NACC Regional Office in Mexico City from 16 to 18 March 2005 to cater for all the other ISCS footprint users States and is aim to train staff of English speaking CAR/SAM States.

2.10 It is vital that States make the necessary arrangements to allow an appropriate individual to attend this workshop. The selected individual should be an operational user of the system with the capability of passing on any training received to the remaining operational staff within their own country. It is the responsibility of all States to ensure that an individual is available to attend this workshop.

3. Recommended Actions

3.1 Based on the updated information and considerations with regard to the transition plan to the final phase of the WAFS in the Central Caribbean expressed in paragraphs 2.1 to 2.10 of this paper, the Meeting is invited to:

- a) note the information presented in this working paper; and
- b) urge States to nominate an appropriate individual to attend this second GRIB/BUFR workshop that will be conducted in English.

APPENDIX**TRANSITION PLAN TOWARDS THE FINAL PHASE OF WAFS IN THE CAR/SAM REGIONS**

Task	Description of task	Date
1	WAFS Washington to provide global gridded W/T data in GRIB code.	Completed
2	WAFS Washington to produce SWH charts.	Completed
3	ICAO NACC and SAM Regional MET officers survey states ability to produce wind/temperature charts from GRIB data for the purpose of assessing training needs.	Completed
4	ICAO to coordinate with States and users if there is validated regional requirement for SWM Charts for limited geographical area.	Completed
5	United States to provide BUFR decode software to the workstation manufactures.	Completed
6	Provide the technical functionality specifications for the purpose of acquiring new WAFS workstations.	Completed
7	Buenos Aires and Brasilia RAFC close.	Completed
8	States to initiate a process to procure new workstations, service agreements, and training to support these stations with a planned installation of workstations by November 2003.	Ongoing
9	Establishment of back-up distribution arrangements for WAFS products.	Completed
10	Provision of test BUFR coded SIGWX via File Transfer Protocol Server (FTP) to selected States for testing.	Completed
11	Satellite distribution of global SWH and SWM for limited geographical areas in BUFR format.	Ongoing
12	Training in the operational conversion of GRIB to wind and temperature charts and BUFR to significant weather charts at Regional seminars.	October 2004 – March 2005
13	States have the ability to operate the decoding and presentation software to convert GRIB forecasts into operational wind and temperature charts and BUFR SIGWX forecasts into operational significant weather charts.	March 2005
14	Removal of T4 wind and temperature and SIGWX products from satellite broadcast.	1 July 2005
WAFS Transition Completed		1 July 2005

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