



**Agenda Item 2:           Review of the Summary of Discussions of the Third C/CAR Working Group Meeting**

**CURRENT STATUS OF THE WORLD AREA FORECAST SYSTEM (WAFS) OPERATIONS AND THE IMPLEMENTATION OF THE TROPICAL CYCLONE ADVISORY MESSAGE IN THE CAR/SAM REGIONS**

(Presented by the Secretariat)

**SUMMARY**

This working paper presents updated information on the WAFS requirements for the final phase of the CAR/SAM Regions. Information is provided on the issuance and dissemination of tropical cyclone advisories issued by the Tropical Cyclone Advisory Centre (TCAC) Miami, according to the format specified by ICAO in Annex 3.

**References:**

- Report of the Ninth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/9)
- Report of the Tenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/11)
- GREPECAS AERMETSG, Report on the WAFS Task Force Special Meeting (WAFS/TF/SM)
- CAR/SAM ANP Volume II, FASID Part VI-Meteorology, Doc 8733
- Summary of Discussions of the Third Central Caribbean Working Group Meeting (C/CAR WG/3) (Curaçao, Netherlands Antilles, 24 to 28 March 2003)

**1. Introduction**

1.1           The Third Central Caribbean Working Group Meeting (C/CAR WG/3) held in Curaçao, Netherlands Antilles, 24 to 28 March 2003, reviewed the transition plan to implement the final phase of the World Area Forecast System (WAFS) in the CAR/SAM Regions. It was noted by the meeting that it was necessary to update the information contained in the plan. Furthermore, the Working Group was informed that the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG) will review the plan at their next meeting to be held in June 2003 in Brazil. We present in this working paper the proposed information update.

1.2 In the past decades, there have been a number of tropical cyclones in the Central American, the Caribbean and North American Regions that have disrupted aircraft operations and threatened the safety of flight through the Flight Information Regions (FIRs) of the CAR/SAM Regions. The occurrence of tropical cyclones in the CAR Region has a critical effect on air navigation safety. Every year from 1 June to 30 November, the Atlantic hurricane season is officially established, dates selected to encompass over 97% of tropical activities. During this time, the aircraft operations are potentially dependent on the occurrence of this meteorological phenomenon that has a critical impact on the safety of flights and operability of aerodromes. The new provisions of the Amendment 72 to ICAO Annex 3/WMO Technical Regulations [C.3.1] related to SIGMET information and the format for tropical cyclone advisory message, will provide the advisory information for the preparation of SIGMET messages.

## 2. Discussion

### *Progress in the transition to the final phase of the WAFS in the CAR/SAM Regions*

2.1 The meeting will be aware that the responsibility for the production of WAFS high level SIGWX forecasts (SWH) by the Brasilia and Buenos Aires RAFCs was transferred to the Washington WAFC (GREPECAS/9 Conclusion 9/3), effective 1 September 2000. Likewise, the WAFS Task Force Special Meeting (WAFS/TF/SM – April 2002) formulated draft Conclusion 2, adopted by GREPECAS/11 as Conclusion 11/70, which indicates that the Washington WAFC will not produce SWM charts for limited geographical areas in the CAR/SAM Regions. In this regard, the meeting may be aware of the fact that the issue of the provision of medium – level SIGWX forecasts will be examined from a global perspective by the WAFSOPSG/1 Meeting, to be held in Lima, Peru from 10 to 13 November 2003. The WAFS/TF/SM also formulated draft Conclusion 5 – Closure of CAR/SAM Regional Areas Forecast Centres, included in GREPECAS/11 draft Report as Conclusion 11/73. However, during its revision the meeting, due to a misunderstanding, did not adopt the referred conclusion. In this context, the meeting will wish to note that the establishment of the RAFCs were based on Recommendation 3.2/1 of the COM/MET Divisional Meeting held in 1982, which was approved by Council and therefore, it is important that Council be informed of the closure of the CAR/SAM RAFCs.

2.2 The planning for the transfer of responsibilities from the RAFCs to the WAFCs has been conducted by the ICAO planning and implementation regional groups (PIRGs), in accordance with Council action on relevant recommendations of the COM/MET Divisional Meeting (1982). It will be noted that on September 2002, responsibilities of the RAFCs were transferred to the WAFCs in accordance with the transition plans of the PIRGs concerned.

2.3 Aimed at ensuring the reception of WAFS forecasts in GRIB and BUFR code forms, which will allow CAR/SAM States to access the global forecasts, the GREPECAS/11 formulated Conclusion 11/69 – Transition Plan for the final phase of WAFS in the CAR/SAM Regions – including the dates in which the CAR/SAM States/Territory should take necessary action to achieve the WAFS final phase without problems in these two regions. Therefore, the next Aeronautical Meteorology Subgroup Meeting (AERMETSG/6) to be held in Brasilia, Brazil from 23 to 27 June 2003, could agree to update the schedule of the Transition Plan to implement the final phase of WAFS in the CAR/SAM Regions as included in the **Appendix**.

2.4 It may be noted that the two-way satellite-based Regional Meteorological Telecommunication Network (RMTN), which is integrated with the International Satellite Communication System (ISCS) operated by the United States for ICAO/WAFS Working Group, is fully operational in all countries concerned. The STAR 4 PC based terminal equipment needs to be changed because of the technology upgrade of the satellite segment, which will necessitate new workstations to handle the protocol advancements. It is expected that during the next AERMETS/6, the status of implementation of GREPECAS Conclusion 11/71 calling CAR/SAM States to procure WAFS workstations, will be reviewed. According to the ISCS regarding the workstations replacements, the new schedule calls for all new workstations to be installed and initial training completed between June and December 2003. On January 1, 2004, all workstations capable of receiving and sending in Transfer Communication Protocol/Internet Protocol (TCP/IP) should be in place and functioning. A temporary dual operation (X.25 and TCP/IP) is planned from approximately September 2003- December 2003.

***Implementation of new format of the tropical cyclone advisory message by TCAC Miami***

2.5 The meeting will recall that the ICAO tropical cyclone warning system is based on the World Meteorological Organization (WMO) Tropical Cyclone Program (TCP) and that all the TCACs designated by the Regional Air Navigation (RAN) are those that are already WMO Regional Specialized Meteorological Centres (RSMC) with specialization in tropical cyclones.

2.6 The non-implementation of the ICAO tropical cyclone warning system by the TCAC Miami for the North American, Central American and Caribbean (NACC) Region was discussed at the WMO 24th Session of the RA IV Hurricane Committee held in Orlando, Florida, United States, from 3 to 10 April 2002. ICAO representative presented a working paper proposing that the Tropical Cyclone Operational Plan for the RA IV should be amended to include the new format of the tropical cyclone advisory introduced by the Amendment 72 to ICAO Annex 3, applicable from 1 November 2001.

2.7 Furthermore, a follow-up action on Recommendation 1/21 of the Meteorology (MET) Divisional Meeting (2002) was carried out by the NACC Regional Office to promote the implementation of the tropical cyclone advisories for international civil aviation. ICAO requested TCAC Miami to implement the new format following Amendment 72 to ICAO Annex 3/WMO Technical Regulations [C.3.1].

2.8 TCAC Miami has agreed to implement during the 2003 Hurricane Season, ICAO's request in compliance with Annex 3 provisions related to the tropical cyclone advisory message.

### **3. Conclusions**

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 2.4 of this note, and also based on the GREPECAS/11 Meeting Conclusion 11/69, 11/71 and 11/72 to support the transition towards the final phase of WAFS, shown in the Appendix. The meeting is invited to adopt the following Draft Conclusion:

**DRAFT**

**CONCLUSION 6/X: IMPLEMENTATION OF THE UPDATED PROGRAMME FOR THE TRANSITION PLAN TO THE FINAL PHASE OF THE WAFS IN THE CAR/SAM REGIONS**

The C/CAR States/Territories are urged to:

- a) implement the workstation replacement capable of receiving and sending in TCP/IP in place and functioning before 1 January, 2004; and
- b) follow-up on the results of the Sixth Aeronautical Meteorology Subgroup Meeting (AERMETSG/6) and other GREPECAS subsequent recommendations.

3.2 With regard to the tropical cyclone advisory message, and based on the above information contained in paragraphs 2.5 to 2.8, the following Draft Conclusion is proposed to be adopted by the Meeting:

**DRAFT**

**CONCLUSION 6/Y: ACTIONS BE TAKEN TO USE ICAO NEW FORMAT RELATED TO TROPICAL CYCLONE ADVISORY**

That, the Civil Aviation Authorities in co-ordination with the Meteorological Authorities of the Central Caribbean States/Territories be prepared to receive and use the new tropical cyclone advisory message that will be issued by TCAC Miami following Amendment 72 to ICAO Annex 3/WMO Technical Regulations [C.3.1].

**4. Recommended Actions**

4.1 The Meeting is invited to:

- a) note the updated information presented in this working paper;
- b) review and adopt the Conclusion 6/X on the final phase of the WAFS that is presented under paragraph 3.1; and
- c) review and adopt the Conclusion 6/Y regarding the implementation of ICAO tropical cyclone warning system that is presented under paragraph 3.2.

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## APPENDIX

**PROPOSAL TO UPDATE TASKS PROGRAMME TO SUPPORT THE TRANSITION PLAN  
TOWARDS THE FINAL PHASE OF WAFS IN THE CAR/SAM**

| <b>Task</b>                              | <b>Description of task</b>   | <b>Date</b>  |
|--|--|--|
| 1  | WAFS Washington to provide global gridded W/T data in GRIB code  | Completed  |
| 2  | WAFS Washington to produce SWH charts  | Completed  |
| 3  | ICAO NA CC 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  | U.S. to provide BUFR decode software to the workstation manufacturers  | Completed  |
| 6  | Provide the technical functionality specifications for the purpose of acquiring new WAFS workstations  | <del>June 2002</del><br>To be updated              |
| 7  | Buenos Aires and Brasilia RAFC close   | <del>July 2002</del><br>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. | July 2002  |
| 9  | Establishment of back-up distribution arrangements for WAFS products   | November 2002                                      |
| 10                                       | Training to be completed on existing workstations provided to States who need assistance to produce wind/temperature charts from GRIB data in support of Task 14                   | May 2003   |
| 11                                       | Provision of test BUFR coded SIGWX forecasts on satellite broadcasts   | <del>mid-2002</del><br>September 2002              |
| 12                                       | All states that receive GRIB products capable of converting GRIB forecasts to Wind/Temp charts   | mid-2003   |
| 13                                       | Training in the operational conversion of BUFR to SIGWX charts   | <del>late 2003 to late 2004</del><br>To be updated |
| 14                                       | Removal of T4 wind/temperature charts from satellite broadcast*  | <del>mid-2003</del><br>1 July 2005                 |
| 15                                       | Satellite distribution of global SWH and SWM in BUFR format  | late 2003  |
| 16                                       | States have the ability to operate the decoding and presentation software to convert BUFR SIGWX forecasts into operational graphical products                                      | <del>mid-2004</del><br>31 December 2005            |
| 17                                       | Removal of T4 SIGWX products from satellite broadcast  | <del>late 2004</del><br>1 July 2005                |
| WAFS Transition to Final Phase Completed |  | 1 July 2005  |

Note: Tasks 8, 9 and 10 shall be updated during the AERMETS/6 meeting to be held in June 2003.