



International Civil Aviation Organization

NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE

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29 E/CAR WG – WP/08

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Agenda Item 3

Specific Air Navigation Activities and Developments

3.4 Aeronautical Meteorology (MET)

IMPLEMENTATION OF TROPICAL CYCLONE ADVISORIES IN THE CAR/SAM REGIONS

(Presented by the Secretariat)

SUMMARY

This working paper presents information regarding the implementation of the tropical cyclone advisory by the TCAC Miami in the CAR/SAM Regions. An up-to-date address list of MWOs and the ISCS and SADIS, ICAO's satellite broadcast based on the CAR/SAM ANP/FASID is given. Information is provided about the users requirements of inclusion of horizontal extent of gale-force winds and frequent CB clouds in tropical cyclone advisories in graphical format.

References:

- ICAO Annex 3 – Meteorological Service for International Air Navigation; and
- Report of the ICAO Meteorology (MET) Divisional Meeting, (2002) (Doc 9812).

1. Introduction

1.1 Tropical cyclone advisories (TCAs) are essential for the safety and efficiency of international civil aviation. Tropical cyclone advisory centre (TCAC) Miami continued to assist in the coordination and provision of tropical cyclones advisories in the Tropical Atlantic, Caribbean Sea, Gulf of Mexico, relevant parts of the Pacific, East of 140° E.

2. Discussion

2.1 The Meeting is reminded that starting in 1990, ICAO developed a tropical cyclone warning system based on TCA to provide advice to aviation on the development and movement of TC. As WMO already had an established Tropical Cyclone Programme (TCP), ICAO designated seven *WMO TCP Regional Specialized Meteorological Centres* (RSMC) as *tropical cyclone advisory centres* (TCACs) to issue tropical cyclone advisories in a format specifically designed for the needs of aviation.

2.2 The United States has established two RSMC as TCACs, these are Miami and Honolulu and their areas of responsibility are provided in the CAR/SAM Regional Air Navigation Plan Facilities and Services Implementation Document (FASID) Doc 8733. The two U.S. TCACs have been issuing tropical cyclone advisories in the format prescribed in Appendix 2, Table A2-2 to ICAO Annex 3, in compliance with amendment 73 to Annex 3.

2.3 Initially, TCAC Miami and Honolulu did not issue the forecast position of the centre of the tropical cyclone (+18 hours) and the forecast of maximum surface wind 18 hours after the time of issue. However, during the 2003 Hurricane season, TCAC Miami and Honolulu added the +18 hour data to bring the TCA into complete compliance with the information content and format in Annex 3. The +18 hour position is a linear extrapolation of the meteorological model forecast positions at +12 and +24 hours.

2.4 Since the establishment of the ICAO TC warning system, there have been several amendments to the requirements for the TCAs. The latest was introduced with Amendment 73 to ICAO Annex 3/WMO Technical Regulations [C.3.1], which became applicable on 25 November 2004.

2.5 Every TCAC serves a number of meteorological watch offices (MWO) required to issue warnings for tropical cyclones in the form of SIGMET messages. The designated TCAC Miami and the MWOs to which the advisories are to be sent for the CAR/SAM Regions, are given in the FASID Table MET 3, Part I, of the ICAO CAR/SAM Air Navigation Plan.

2.6 Based on the requests from airlines, a provision was included in amendment 73 to Annex 3/WMO Technical Regulations [C.3.1], requiring the dissemination of the TCAs to the MWOs, international operational meteorological (OPMET) data banks and to the providers of the ICAO satellite broadcasts (i.e. international satellite communications system (ISCS) and the satellite distribution system for information relating to air navigation (SADIS)).

2.7 Thus, ICAO attended the last WMO RA-IV Hurricane Committee 27th session in San Jose, Costa Rica, 31 March to 5 April 2005 and presented a working paper requesting that TCAC Miami, designated to provide the service in the CAR/SAM Regions, ensure the routing of TCA to the providers. This requirement reflects the current need for global dissemination of TCA. A list of AFTN addresses for which TCAC Miami agreed to ensure the routing during the 2005 Hurricane season is provided in the **Appendix**.

2.8 ICAO recognizes and appreciates the efforts and endeavours taken by the TCAC Miami in the betterment of aviation safety in the CAR/SAM Region by implementing the issuance of tropical cyclone advisories for international civil aviation.

3. Proposal of introduction of a new specification and format of a graphical tropical cyclone advisory

3.1 The International Air Transport Association (IATA) has stated a requirement for the inclusion of 1) frequent CB and 2) the horizontal extent of gale-force winds in tropical cyclone advisories in graphical format. In this regard, it is expected that a proposal to meet this specific user requirement will be presented at the forthcoming WMO TC Programme Coordination Meeting, to be convened in December 2005.

4. Action proposed

4.1 The Meeting is invited to note:

- a) the information provided on changes to the tropical cyclone advisory; and
- b) the designated list of AFTN addresses that the TCAC Miami has agreed to provide the service in the CAR/SAM Regions which will ensure the routing of TCAs to MWOs, OPMET data banks and Washington and London Centres for uplink to the ISCS and SADIS broadcast respectively.

APPENDIX

**METEOROLOGICAL WATCH OFFICE (MWO) TO WHICH TROPICAL CYCLONE
ADVISORY INFORMATION IS TO BE SENT BY THE TROPICAL CYCLONE ADVISORY
CENTRE, MIAMI**

MWO	ADDRESS
Belem, Brazil	SBBEYMYX
Bogota, Colombia	SKBOYMYX
Caracas, Venezuela	SVMIYMYX
Cayenne, French Guiana (France)	SOCAYMYX
Georgetown, Guyana	SYCJYMYX
Habana, Cuba	MUHAYMYX
Kingston, Jamaica	MKJPYMYX
Mexico, Mexico	MMMXYMYX
Panama, Panama	MPTOYMYX
Port of Spain, Trinidad and Tobago	TTPPYMYX
Port-au-Prince, Haiti	MTPPYMYX
San Juan, Puerto Rico (U.S.A.)	TJSJYMYX
Santo Domingo, Dominican Republic	MDSDYMYX
Tegucigalpa, Honduras	MHTGYMYX
Willemstad, Netherlands Antilles, (Netherlands)	TNCCYMYX
Zandery, Suriname	SMJPYMYX

As well as these addresses:

SADIS Uplink CAR Region	EGZZMCAR
SADIS Uplink SAM Region	EGZZMSAM
OPMET Data Bank, Brasilia	SBBRYZYX
OPMET Data Bank, Washington	KWBCYMYX
WAFC, London	EGRRYMYX
WAFC, Washington	KWBCYMYX

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