



Agenda Item 2: Review of Air Navigation matters
2.3 Air Navigation specific activities:
2.3.4 Aeronautical Meteorology (MET)

AERONAUTICAL METEOROLOGICAL SERVICE IN THE EASTERN CARIBBEAN REGION

(Presented by the Secretariat)

SUMMARY	
The aeronautical meteorological service has a crucial role in the safety and efficiency of air navigation. This working paper highlights the need to enhance coordination between the MET, COM and ATS services and introduce a Quality Management System to improve the meteorological service provided to aviation in the Eastern Caribbean, and promotes the preparation of the meteorological component of national performance-based air navigation implementation plans in the Eastern Caribbean.	
References: • Doc. 9750 /963 - Global Air Navigation Plan. 3rd ed. 2007. • Annex 3. "Meteorological Service for International Air Navigation". Sixteenth Edition. July 2007. • Annex 6. "Operation of Aircraft", Part I. Aeroplanes. Eighth Edition. July 2001. • Annex 11. "Air Traffic Services". Thirteenth Edition. July 2001. • Final Report of E/CAR/WG31 Meeting (St. John's Antigua, 2009).	
Strategic Objectives	<i>This working paper is related to Strategic Objectives A, D, E</i>

1. Introduction

1.1 Air transport operations demand better meteorological information to take advantage of fair weather and avoid dangerous atmospheric phenomena and volcanic ash. The ICAO Global Air Navigation Plan demands **immediate** access to **high-quality** aeronautical meteorological (OPMET) information that is required to support Air Traffic Management and Aircraft Operations.

1.2 *OPMET data availability and need for MET-COM coordination*

1.2.1 The National Weather Service (NWS) of the United States modified the International Satellite Communications System (ISCS) on 31 March 2010, in such a manner that the ISCS-WAFS 2-way (reception/transmission) workstations located at the meteorological offices of E/CAR States and Territories can not longer disseminate OPMET data (METAR, SPECI, TREND, TAF, SIGMET, AIRMET). Some E/CAR States implemented a contingency procedure to disseminate their OPMET data via internet, however, considering that paragraph 11.1.9 of Annex 3 recommends that the telecommunications facilities used for exchange of operational meteorological information should be the aeronautical fixed services, the Civil Aviation and Meteorological Authorities of some E/CAR States, namely Antigua and Barbuda and Barbados, are invited to implement an AFTN terminal at the premises of their meteorological offices.

1.2.2 Considering that the ISCS-WAFS satellite service will be operational until 30 June 2012, the Civil Aviation and Meteorological Authorities of E/CAR States and Territories are invited to make timely arrangements to implement the following facilities at their meteorological offices: a) a WAFS Internet File Server (WIFS) station to receive OPMET data and WAFS products, and b) a NOAANET station to disseminate OPMET data and other meteorological data.

1.3 *Need to enhance special air-reports and MET – ATS coordination*

1.3.1 SIGMET messages warn aircraft on the presence of hazardous meteorological phenomena and volcanic ash clouds. Currently, there is a need to enhance MET-ATS coordination to get aircraft reports to be used to prepare and issue SIGMET messages on clear air turbulence (CAT) and wind shear, since these phenomena are sometimes difficult to detect with conventional meteorological information.

1.3.2 In 2009, an aircraft flying in the CAR Region encountered clear air turbulence (CAT). In this event, 26 passengers were injured, 4 seriously; in spite of this; no air-report was relayed from the ATS units to the meteorological offices; therefore, no SIGMET was prepared and issued to warn other aircraft on the presence of CAT. For a long time, an outstanding deficiency in several E/CAR States has been that special air-reports are not regularly relayed to the meteorological offices.

1.3.3 Paragraph 4.4.2 of Annex 6, Part I, states that: “ The procedures for **making** meteorological observations on board aircraft in flight and for recording and **reporting** them are contained in Annex 3, the PANS-ATM (Doc. 4444) and the Regional Supplementary procedures (Doc. 7030)”. Standards 5.5.a of Annex 3 and 4.12.3 PANS-ATM (Doc. 4444) indicate that: “Special observations shall be made by all aircraft whenever the following conditions are encountered: a) severe turbulence”; besides, Standard 5.7.2 of Annex 3 indicates that: “Aircraft observations shall be reported during flight at the time of the observation is made or as soon thereafter as is practicable”. On the other hand, standards 5.8 of Annex 3 and 2.20.1.b of Annex 11 refer to the coordination between the meteorological and air traffic control services to ensure that, on receipt at the ATS units, special air-reports are to be relayed without delay to the corresponding meteorological office or meteorological watch office.

1.3.4 In this regard, the Civil Aviation, Air Traffic and Meteorological Authorities of the E/CAR Region should remind pilots, ATS and MET personnel the need to comply with ICAO standards to ensure that: “Special air-reports are prepared and relayed to the meteorological offices, without delay, to prepare and issue SIGMET messages”. In this regard, the implementation of AFTN terminals in the premises of the E/CAR meteorological offices is recommended to receive messages containing special air/reports relayed by the ATS units.

1.4 *Quality Management System in Meteorology.*

1.4.1 The meeting is also invited to take note that the establishment of a Quality Management System (QMS) in Meteorology is a requirement to support the Global Air Traffic Management, therefore, recommendation 2.2.2 of Annex 3, is due to become a standard in 2012. ICAO, in coordination with the World Meteorological Organization, has recently organized three QMS-MET Seminar/Workshops (Dominican Republic, 2006; Jamaica, 2009 and Bolivia, 2010). Civil Aviation (CA) and Meteorological (MET) Authorities have strongly supported these events and participants from most E/CAR States and Territories have attended them. In this regard, CA and MET authorities of the E/CAR Region are encouraged to continue their efforts to implement Quality Management Systems for the meteorological service provided to the aviation users.

1.5 *MET in the Performance Framework*

1.5.1 The ICAO NACC Regional Office has prepared the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP). This plan contains performance objectives aimed to achieve the Global Air Traffic Management operational concept (the Plan is available on the <http://www.mexico.icao.int/Meetings/ECARWG32.html>). In particular, the meteorological component of the NAM/CAR RPBANIP is aimed to improve availability of high-quality meteorological and climatological information for decision making in ATM to take advantage of fair weather and avoid hazardous meteorological phenomena. This performance objective contains a series of tasks aimed to support air traffic management flow, improve route planning and management, improve situational awareness of pilots on current weather conditions, enhance runway and airspace capacity, promote the use of data-link to download and upload meteorological information and improve meteorological systems.

1.5.2 Delegates of the States are invited to consider the meteorological component of the NAM/CAR RPBANIP, “15. IMPROVE AVAILABILITY OF METEOROLOGICAL INFORMATION” as a reference to prepare their National Performance Framework to support the achievement of the Global Air Traffic Management.

2. *Suggested Action*

2.1 The meeting is invited to take note of the items mentioned in paragraphs 1.2.1, 1.3.4, 1.4.1 and 1.5.2, and agree on actions to:

- a) enhance coordination between MET-COM services to ensure continuous OPMET data dissemination and exchange by the implementation of an AFTN terminal at the premises of the meteorological offices of Antigua and Barbuda and Barbados;
- b) enhance coordination between MET-ATS services to improve availability of special air reports (SIGMET messages);

- c) implement Quality Management Systems for aviation meteorological services and inform the ICAO NACC Regional Office about these plans before 30 November 2010; and
- d) prepare the meteorological component of their national performance-based air navigation implementation plan before 30 December 2010, in compliance with GREPECAS conclusion 15/1, item b).

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