

Part VI

METEOROLOGY (MET)

Basic

INTRODUCTION

1. This part of the CAR/SAM Basic Air Navigation Plan contains elements of the existing planning system and introduces the basic planning principles, operational requirements and planning criteria related to aeronautical meteorology (MET) as developed for the CAR/SAM regions and considered to be the minimum necessary for effective planning of MET facilities and services.

2. As a complement to the Statement of Basic Operational Requirements and Planning criteria (BORPC) set out in Part I, Part VI constitutes the stable guidance material considered to be the minimum necessary for effective planning of MET facilities and services in CAR/SAM regions. A detailed description/list of the facilities and/or services to be provided by States in order to fulfill the requirements of the Basic ANP is contained in the CAR/SAM Facilities and Services Implementation Document (FASID). During the transition and pending full implementation of the future CNS/ATM systems, it is expected that the existing requirements will gradually be replaced by the new CNS/ATM related requirements. Further, it is expected that some elements of the CNS/ATM systems will be subject to amendment, as necessary, on the basis of experience gained in their implementation.

3. The Standards, Recommended Practices and Procedures to be applied are contained in Annex 3 - *Meteorological Service for International Air Navigation*.

4. Background information of importance in the understanding and effective application of this part of the plan is contained in the *Report of the Third Caribbean/South American Regional Air Navigation Meeting* (Doc 9749), supplemented by information appropriate to the CAR/SAM regions which is contained in the reports of the other regional air navigation (RAN) meetings.

5. A RAN meeting recommendation or conclusion, CAR/SAM Regional Planning and Implementation Group (GREPECAS) conclusion or ICAO operations groups' conclusion shown in brackets below a heading indicates the origin of all paragraphs following that heading. A RAN Meeting recommendation or conclusion, GREPECAS conclusion or ICAO operations groups' conclusion shown in brackets below a paragraph indicates the origin of that particular paragraph.

METEOROLOGICAL SERVICE REQUIRED AT AERODROMES AND REQUIREMENTS FOR METEOROLOGICAL WATCH OFFICES (FASID Tables MET 1A and MET 1B).

6. The service to be provided at international aerodromes listed in the Appendix to Part III of the Basic CAR/SAM ANP is set out in FASID Table MET 1A. [CAR/SAM/3, Rec. 7/7]

7. The service to be provided for flight information regions (FIRs), upper flight information regions (UIRs), control areas (CTAs) and search and rescue regions (SRRs) is set out in FASID Table MET 1B. [CAR/SAM/3, Rec. 7/7]

8. Hourly routine observations should be made at all aeronautical meteorological stations, to be issued as local routine reports and METAR, together with special observations to be issued as local special reports and SPECI. [GREPECAS Conclusion 13/31 a)]

9. TAF should be issued at intervals of six hours, with the period of validity beginning at one of the main synoptic hours (00, 06, 12, 18 UTC). The period of validity

should be of twenty four or thirty hours duration, to meet the requirements indicated in FASID Table MET 1A. The filing time of the TAF bulletins should be approximately one hour before the start of the period of validity.
[GREPECAS Conclusion 12/65¹]

10. The forecast maximum and minimum temperature together with their respective times of occurrence should be included in TAF for certain aerodromes as agreed between the meteorological authorities and the operators concerned.
[GREPECAS Conclusion. 13/31 a)]

11. Trend forecasts should be provided at the aerodromes as indicated in FASID Table MET 1A.
[CAR/SAM/3, Rec. 7/7]

12. Meteorological service should be provided on a twenty-four-hour basis, except as otherwise agreed between the meteorological authority, the air traffic services (ATS) authority and the operators concerned.
[CAR/SAM/3, Rec. 7/7]

13. At aerodromes with limited hours of operation, METAR should be issued at least one hour prior to the aerodrome resuming operations to meet pre-flight and in-flight planning requirements for flights due to arrive at the aerodrome concerned as soon as it is opened for use. Furthermore, TAF should be issued with adequate periods of validity so that they cover the entire period during which the aerodrome is open for use.
[GREPECAS Conclusion 13/31 a)]

14. When a meteorological watch office (MWO) is temporarily not functioning or is not able to meet all its obligations, its responsibilities should be transferred to another MWO and a NOTAM should be issued to indicate such a transfer and the period during which the office is unable to fulfill all its obligations.
[CAR/SAM/3, Rec. 7/7]

15. Details of the service provided should be indicated in the Aeronautical Information Publication (AIP) in accordance with the provisions of Annex 15.
[CAR/SAM/3, Rec. 7/7]

16. As far as possible, English should be among the languages used in meteorological briefing and consultation.
[CAR/SAM/3, Rec. 7/7]

17. FASID Tables MET 1A and MET 1B should be implemented as soon as possible. The implementation of a new MWO or changes to the area served by existing MWO indicated in FASID Table MET 1B should take place coincidentally with the implementation of, or changes to, the

FIR/UIR/CTA/SRR concerned.
[CAR/SAM/3, Rec. 7/7]

AIRCRAFT OBSERVATIONS AND REPORTS (FASID Table MET 1B)

18. The meteorological authority should adopt the approved list of ATS/MET reporting points, as it relates to points located within and on the boundaries of the FIR for which the State is responsible. Those ATS/MET reporting points should be published in the AIP, under GEN 3.5.6 - *Aircraft reports*, of the State concerned.
[CAR/SAM/3 Rec. 7/13]

Note. - The approved list of ATS/MET reporting points is published and kept up to date by the ICAO Regional Offices concerned, on the basis of consultations with ATS and MET authorities in each State and the provisions of Annex 3 in this respect.

19. The MWOs designated as the collecting centres for air-reports received by voice communications within the FIR/UIR are shown in FASID Table MET 1B.
[CAR/SAM/3 Rec. 7/13]

SIGMET AND AIRMET INFORMATION (FASID Tables MET 3A, MET 3B and MET 3C)

20. Tropical cyclone advisory centre (TCAC) Miami has been designated to prepare advisory information. FASID Table MET 3A sets out the area of responsibility, the period(s) of operation of the TCAC and the MWOs to which the advisory information should be sent.
[IAVWOPSG Conclusion 3/2]

21. Volcanic ash advisory centres (VAACs) Buenos Aires and Washington have been designated to prepare advisory information. FASID Table MET 3B sets out the area of responsibility of the VAACs, the MWOs and ACCs to which the advisory information should be sent.
[IAVWOPSG, Conclusion 3/2]

22. In order for the VAACs to initiate the monitoring of volcanic ash from satellite data and the forecast of volcanic ash trajectories, MWOs should notify the relevant VAAC immediately on receipt of information that a volcanic eruption has occurred or volcanic ash has been observed in the FIR for which they are responsible. In particular, any special air-reports of pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud, received by MWOs should be transmitted without delay to the VAAC concerned. Selected

State volcano observatories have been designated for direct notification of significant pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash in the atmosphere to their corresponding ACC, MWO and VAAC. FASID Table MET 3C sets out the selected State volcano observatories and the VAACs, MWOs and ACCs to which the notification should be sent by the observatories.

[IAVWOPSG, Conclusion 2/2]

23. AIRMET messages are not required to be issued by MWOs.

[CAR/SAM/3, Rec. 7/7]

EXCHANGE OF OPERATIONAL METEOROLOGICAL (OPMET) INFORMATION (FASID Table MET 2A)

International OPMET data banks

24. The International OPMET data banks in Brasilia and Washington have been designated to serve States in the CAR/SAM Regions to access OPMET information required, but due to temporary failure in communications systems is not received.

[GREPECAS Conclusion. 13/31 a)]

Exchange of METAR, SPECI and TAF

25. Availability of METAR, SPECI and TAF required in ISCS and SADIS is included in FASID Table MET 2A. This table should be updated, as necessary, by the ICAO Regional Offices concerned on the basis of changes in the pattern of aircraft operations and in accordance with the Statement of Basic Operational Requirements and Planning Criteria, in consultation with those States and international organizations directly concerned.

[GREPECAS, Conclusion 14/24¹]

26. The exchanges indicated in FASID Table MET 2A should be implemented as soon as possible to meet the requirements of current aircraft operations. The availability at meteorological offices of the required OPMET information should be reviewed continuously. Any changes in this respect (i.e. additional OPMET information needed or OPMET information no longer required) should be notified to the corresponding meteorological authority which, in turn, should amend its corresponding address lists and inform the ICAO Regional Offices.

[GREPECAS, Conclusion 14/24]

WORLD AREA FORECAST SYSTEM (WAFS) (FASID Table MET 5)

27. FASID Table MET 5 sets out the CAR/SAM regions requirements for WAFS forecasts to be provided by WAFC Washington.

[WAFSOPSG, Conclusion 1/2]

28. For back-up purposes, each WAFC should have the capability to produce WAFS forecasts for all the required areas of coverage.

[WAFSOPSG, Conclusion 1/2]

29. WAFS forecasts should be disseminated by WAFC Washington using the international satellite communications system (ISCS1) covering the reception area shown in FASID Chart CNS [4] or using the ISCS FTP service.

[WAFSOPSG, Conclusion 5/2]

30. Each State should make the necessary arrangements to receive and make full use of operational WAFS forecasts disseminated by WAFC Washington. The lists of the authorized users of the ISCS1 services in the CAR/SAM regions and location of the operational VSATs and FTPs are available from the following website:

www.weather.gov/iscs (click: "Documents" and "Status of implementation of ISCS listed by ICAO regions") for ISCS

[WAFSOPSG, Conclusion 5/2]

¹ This conclusion was approved by GREPECAS "fast track" mechanism, therefore, it will be numbered after GREPECAS/16.