



**Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group
 (GREPECAS/20)**

Salvador, Brazil, 16 – 18 November 2022

Agenda Item 2: Global and Regional Developments
 2.3 Programmes and Projects Progress Report

CIMAER AND WEATHER SERVICES

(Presented by Brazil)

EXECUTIVE SUMMARY	
<p>This information paper aims to publicize the importance of creating the Integrated Center for Aeronautical Meteorology (CIMAER) in the context of providing Aeronautical Meteorology services in Brazil. The emergence of this military organization is part of the efforts to restructure the Brazilian Air Force, guided by the Air Force Command Directive (DCA 11-45), which establishes the “Força Aérea 100” (“Air Force 100”) Strategic Concept and contains the guidelines that prepare the Brazilian Air Force for the future. In this context, CIMAER emerged with the objective of optimizing the application of human and material resources, as well as increasing efficiency in the provision of aeronautical meteorology service, through the integration of surveillance and weather forecast services, now centralized in a single forecast center: the Integrated Center for Aeronautical Meteorology.</p>	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Economic Development of Air Transport • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • Comando da Aeronáutica. Conceção Estratégica Força Aérea 100 – DCA 11-45. 2018. • Comando da Aeronáutica. Regimento Interno do Centro Integrado de Meteorologia Aeronáutica – RICA 21-321. 2019. • Comando da Aeronáutica. Centros Meteorológicos – ICA 105-17. 2020.

1. Introduction

1.1 The Aeronautics Command, in accordance with the guidelines contained in the Air Force 100 Strategic Concept, integrated the surveillance and meteorological forecast services in a single military organization, the Integrated Center for Aeronautical Meteorology, combining efforts and favoring the optimization of resources and efficiency in the provision of Aeronautical Meteorology service.

2. Development

2.1 Despite the technological advances and transformations that affected all services related to air navigation in Brazil, Aeronautical Meteorology maintained almost the same structure and the same operational model for decades, always guided by the recommendations of the International Civil Aviation Organization (ICAO) and the World Meteorological Organization (WMO). In view of this scenario, and in compliance with the guidelines of the Air Force Command that guide the actions aimed at preparing the Brazilian Air Force for the future, the Integrated Center for Aeronautical Meteorology was activated on April 12, 2019. Subordinated to the Department of Airspace Control (DECEA), based in Rio de Janeiro, CIMAER aims to optimize resources and increase efficiency in the provision of meteorological services, through the integration of the extinct Meteorological Centers, which were located in different parts of the country, namely the National Aeronautical Meteorology Center (CNMA) and Meteorological Surveillance Centers (CMV), as well as through the absorption of some services performed by the Aerodrome Meteorological Centers (CMA) and Military Meteorological Centers (CMM).

2.2 With the integration, the aeronautical meteorology service started to be provided in a more efficient and standardized way: efforts were combined, and redundancies were eliminated, harmonizing the meteorological surveillance messages and the different types of weather forecast, at the national level, all prepared and issued, now, by the Integrated Meteorological Center (CMI), CIMAER's operational body.

2.3 The CMI aggregates all aeronautical meteorology operational attributions involved with meteorological forecasting and surveillance, which, didactically, can be grouped into nine areas of activity:

- I. Area Forecast: prepares and provides significant upper air weather forecasts for aeronautical purposes and makes available the products generated by the World Area Forecast Center (WAFC);
- II. Aerodrome Forecast: prepares and makes available the Terminal Aerodrome Forecast (TAF), in addition to respective amendments, when necessary, for the locations under the responsibility of CIMAER;
- III. Meteorological Surveillance: provides meteorological support to air navigation and aerodromes and provides specific information on the occurrence or forecast of certain meteorological phenomena, en route, and other phenomena in the atmosphere that may affect the safety of air operations;
- IV. Meteorological Briefing: standardizes, drafts and makes available meteorological briefings, HelpMet (telephone system for users), teleservice and others, to support air navigation activities;
- V. VOLMET Operation: provides meteorological support, by means of radio communication, aiming to efficiently provide information of interest to aircraft in flight about the occurrence or forecast of certain meteorological phenomena, en route, and other phenomena in the atmosphere that may affect the safety of air operations;
- VI. Meteorological Radar: operates the Meteorological Radars of the Brazilian Airspace Control System (SISCEAB), makes its products available to interested operational bodies, and coordinates, with other bodies and institutions, matters relating to the area of operation of the Meteorological Radar;
- VII. Support to the Air Navigation Management Center (CGNA): provides support to the operational activities carried out specifically by the CGNA;
- VIII. Defense Aeronautical Meteorology: provides the meteorological service to support operational activities related to military aviation and the bodies responsible for preparing and employing Brazilian aerospace power, with a view to guaranteeing the sovereignty of airspace and the integration of the national territory; and

IX. Space Weather: still in the implementation phase, it will provide the operational Space Weather service, in support of aeronautical activities.

2.4 Through the work currently carried out in these nine areas of activity, the CMI produces and/or makes available, annually, approximately:

- a) 11,000 forecast charts;
- b) 35,000 aerodrome forecast messages (TAF);
- c) 52,000 meteorological surveillance messages; and
- d) 35,000 briefings and HelpMet services.

2.5 In addition to the operational service developed at CMI, CIMAER also coordinates and develops studies and projects to ensure the continuous improvement of the weather forecast service and the quality of the products made available to users; implements specific products in support of weather surveillance, analysis and forecasts; establishes and implements improvements in routine operational practices; develops climatological studies in support of the operational service developed at the CMI; among other activities.

3. Conclusion

3.1 The history of air navigation is marked by the continuous development, not only of air vectors, but of all agents and resources involved in ensuring flight safety and efficiency. In this context, the Brazilian Air Force, as part of its restructuring process, created CIMAER, combining efforts for the benefit of the aeronautical meteorology service. Thus, organizing the operational service into nine areas of activity and striving to develop studies and projects in support of the operation, CIMAER today fulfills with praise its mission of providing with excellence weather surveillance and forecasting services, with a view to contributing to air traffic safety and efficiency.

3.2 The Assembly is invited to take note of the information provided.