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North American, Central American and Caribbean Office

WORKING PAPER

NAM/CAR/CATC/WG/9 — WP/02

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Ninth NAM/CAR Civil Aviation Training Centres Working Group Meeting (NAM/CAR/CATC/WG/9)

San Salvador, El Salvador, 7 – 9 May 2025

Agenda Item 3: Discussion “Needs and Challenges of Aeronautical Training in the Region” with Central American Directors of Civil Aviation Authorities

TRAINING NEEDS IDENTIFIED IN THE NACC/WG

(Presented by the President of the NACC/WG)

EXECUTIVE SUMMARY	
<p>This Working Paper presents the training needs identified by the North American, Central American and Caribbean Working Group (NACC/WG) in the different areas of Air Navigation in line with the implementation plans of the new capabilities required by the Global Air Navigation Plan (GANP) and its different modules and elements of the Aviation System Block Upgrades (ASBU), identified as necessary for the development and evolution of these capabilities in air navigation in our region and the States that comprise it.</p>	
Action:	Suggested Actions are included in Section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Air Navigation Capacity and Efficiency• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• Third Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/03)• Annex 1 – Personnel Licensing – Chapter 4• Annex 3 – Meteorological services for international air navigation• Annex 12 – Search and Rescue• Doc 10057, Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment• Doc 10056, Manual on Air Traffic Controller Competency-based Training and Assessment• Instruction Guide, AIM CAR/SAM course• Technical Regulations, Volume I – General Meteorological Standards and Recommended Practices WMO-No. 49• WMO Regional Training Centers Course offering Plans• Doc 9731 International Aeronautical and Maritime Search and Rescue Manual - Volume I - Organization & Management

1. Introduction

1.1 The North American, Central American, and Caribbean Working Group (NACC/WG) is the regional implementation mechanism for the NAM and CAR regions, bringing together all Working Groups in the various air navigation and aerodrome areas. All States and Territories in the NAM/CAR regions accredited to the ICAO NACC Regional Office are members of the NACC/WG.

1.2 The NACC/WG is the body through which the NAM/CAR regions report on their implementation status and acts as the regional implementation arm for Air Navigation and Aerodromes. It reports directly to the Regional Planning and Implementation Group (PIRG) of the CAR and SAM regions, the CAR/SAM Regional Planning and Implementation Group (GREPECAS).

2. Analysis

2.1 During the Ninth Meeting of the North American, Central American and Caribbean Working Group (NACC/WG/9), the need for training was identified as one of the priorities of the MET/TF 2025 work program. DECISION NACC/WG/09/06 was adopted. Section "b" of this decision indicates that in support of the "implementation of a quality management system in MET processes, the following shall be included: qualifications, competencies, education, and training of meteorological personnel (PMA), among other relevant elements.

2.2 Furthermore, at the Third Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/03), held in March 2025, the need for training in the different areas of Air Navigation was identified. In this regard, the task force rapporteurs of the Search and Rescue (SAR) and Aeronautical Meteorology (MET), expressed the need for training for the personnel who make up these areas in the region.

2.3 The training of aeronautical meteorological personnel (AMP) is essential to ensuring the safety and efficiency of international air navigation. ICAO, through its Annexes 1 and 3, establishes clear requirements for the qualifications, competencies, and professional training of AMPs. These requirements are aligned with the technical regulations of the World Meteorological Organization (WMO) and underscore the need for initial and ongoing training to maintain and improve AMP competencies.

2.4 Within the framework of operational safety oversight, Contracting States have been urged to implement training record systems to ensure traceability and compliance with established standards for all training programs.

3. Conclusion

3.1 In order to identify and address the required training in the field of air navigation, we propose that the NAM/CAR/CATC/WG, in coordination with the rapporteurs and experts comprising the various NACC/WG Task Forces, prepare a training program to address the training gaps identified by the NACC/WG.

3.2 Although we have currently identified training gaps only for the SAR and MET groups, the need for training in other areas of air navigation, such as ATM, CNS, AGA, AIM, among others, has been expressed. **Appendix A and B** to this Working Paper lists the proposed training for MET and SAR areas

respectively. However, we have referenced a series of documents related to the training of these different groups for consideration when preparing the required training program.

3.3 We invite NAM/CAR Training Centres to participate and present their training programs at the NACC/WG and Task Group meetings, which would significantly contribute to air navigation training needs.

4. Suggested actions

4.1 The Meeting is invited to:

- a) take note of the information provided in this Working Paper;
- b) accept the proposals described in section 3 and Appendices A and B of this paper;
- c) identify new training needs for the other areas of air navigation;
- d) in conjunction with the NACC/WG, develop a training program related to Air Navigation Services,
- e) NAM/CAR/CATC/WG to participate and present their ANS training programs at the NACC/WG and Task Group meetings; and
- f) request any additional information deemed necessary.

APPENDIX A
List of courses related to Aeronautical Meteorology

State	Organization	Training Program	Entity
Argentina	Servicio Meteorológico Nacional	Climatología Sinóptica	WMO
Argentina	Servicio Meteorológico Nacional	Información satelital: Aplicaciones para el conocimiento de la atmosfera*	WMO
Argentina	Servicio Meteorológico Nacional	Numeral Weather Models	WMO
Argentina	Servicio Meteorológico Nacional	Numerical Weather Models calibration (verification)	WMO
Argentina	Servicio Meteorológico Nacional	Principios y aplicaciones de los radares meteorológicos*	WMO
Argentina	Servicio Meteorológico Nacional	Pronóstico Inmediato*	WMO
Argentina	Servicio Meteorológico Nacional	Quantitative Volcanic Ash Estimation (QVA) Course	WMO
Argentina	Servicio Meteorológico Nacional	Weather Observers*	WMO
Colombia	Centro de Estudios Aeronáuticos (CEA)	Interpretación de Imágenes Satelitales aplicadas a la Meteorología Aeronáutica*.	ICAO
Ecuador	Escuela Técnica de Aviación Civil (ETAC)	Interpretación de información meteorológica aeronáutica para tripulaciones y navegación aérea*	ICAO
Iran	Islamic Republic of Iran Meteorological Organization (IRIMO)	Aviation Hazards: Low-Level wind shear and Low-Level Turbulence*	WMO
Iran	Islamic Republic of Iran Meteorological Organization (IRIMO)	Forecasting Mountain wave turbulence for aviation*	WMO
Peru	Servicio Nacional de Meteorología e Hidrología (SENAMHI)	Procesamiento de datos de satélite (GOES 16/17/18) con Python	WMO
Spain	Agencia Estatal de Meteorología (AEMET)	Inglés meteorológico aeronáutico*	WMO
Spain	Agencia Estatal de Meteorología (AEMET)	Paquete de Introducción Básica para Meteorólogos (PIB-M)*	WMO
Spain	Agencia Estatal de Meteorología (AEMET)	Predicción meteorológica aeronáutica*	WMO
Spain	Agencia Estatal de Meteorología (AEMET)	Productos y aplicaciones en Centroamérica y Caribe (fase presencial)	WMO
Qatar	Qatar Aeronautical College	Aviation Meteorology for Forecasters*	WMO
United States of America	National Hurricane Center	Introduction to Hurricane Preparedness FEMA Course	
United States of America	National Hurricane Center	WMO RA-IV Workshop on Hurricane Forecasting and Warning*	

(Source, WMO)

NOTE: Courses marked with an asterisk (*), are considered necessary for Aeronautical Meteorology.

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APPENDIX B

List of courses related to Search and Rescue

NOTE:

This list of courses covers the training aspects related to Search and Rescue (SAR). The courses marked with an asterisk (*) are the training that we consider, in principle, priorities for the operational and managerial personnel of Rescue Coordination Centers (RCC) in the aeronautical field.

1. SAR MISSION COORDINATOR (SMC)*
2. ADVANCED SMC COURSE (ASMC)
3. MARITIME SEARCH PLANNING (MSP)
4. FUNDAMENTALS OF SAR (FSAR)*
5. AIRCRAFT COORDINATOR (ACO)
6. ON-SCENE COORDINATOR (OSC)
7. MASS RESCUE OPERATIONS (MRO)
8. GLOBAL MARITIME DISTRESS SAFETY SYSTEM (GMDSS)
9. SAR COORDINATOR (SC)*
10. GROUND SAR (GSAR)
11. ICAO ANNEX XII*
12. COSPAS-SARSAT (CS)*

(source IAMSAR SOLUTIONS)

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