International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

GREPECAS/23 — WP/5.3
29/12/25

Fifth GREPECAS–RASG-PA Joint Meeting (GREPECAS-RASG-PA/5) and Twenty-Third Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/23)

Virtual Phase (Asynchronous, 19 January to 17 February 2026)
In-Person Phase (Mexico City, Mexico, 4 to 6 March 2026)

Agenda Item 5: Outcomes of the Assembly 42; Issues relating to the Air navigation

METEOROLOGY AND SYSTEM-WIDE INFORMATION MANAGEMENT (SWIM)

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This Working Paper highlights the importance of the System-Wide Information Management (SWIM) as a basis for the implementation of the Flight and Flow Information for a Collaborative Environment (FF-ICE), as well as the need to support its adoption through regional strategies in accordance with the A-42 Resolutions.

It is highlighted that A42 underlined the urgency of strengthening risk management associated with hazardous weather events, advancing the Global Hazardous Weather Information Service (HWIS) and continuing studies related to a Tropical Cyclone Advisory Centre (TCAC) for the South Atlantic.

In this context, it is proposed that GREPECAS integrate these priorities into its work programme.

Action:	The provisions of 4.1
Strategic Objectives 2026-2050:	• Every flight is safe and secure • Aviation is environmentally sustainable • Aviation delivers seamless, accessible, and reliable mobility for all • No country left behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges • The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All
References:	• Working Paper 656 of ICAO Assembly 42

1. Introduction

1.1 The 42nd Session of the ICAO Assembly included, on its Agenda, Question 24 - Priority aviation safety and air navigation initiatives for the current triennium.

1.2 The Assembly's Agenda, in describing Question 24, indicated that at this point the information provided by the ICAO Council on the key initiatives and activities proposed in the field of aviation safety and air navigation for the next triennium would be studied, taking into consideration the recommendations of AN-Conf/14.

1.3 The Assembly also examined global, regional and state initiatives for cooperation and implementation support for the next triennium, including global priorities for implementation support and expectations for regional planning and implementation groups (PIRGs), among other topics.

1.4 The Assembly considered several Working Papers and briefing notes, related to aeronautical meteorological services, and system-wide information management (SWIM) and its role as an enabler for the transition to flight and flow information services for the cooperative environment (FF-ICE).

2. Analysis

2.1 The Assembly, under agenda item 24, considered a number of Working Papers and briefing notes related to the digital evolution of the global ATM system, highlighting the role of SWIM as a key enabling infrastructure for the exchange of aeronautical, meteorological and operational data.

2.2 The need for a globally harmonized and uniform implementation of FF-ICE was highlighted, for which SWIM is an essential step to enable secure, timely and digital model-based information exchange services.

2.3 The technical commission emphasized the importance of developing technical enabling elements that ensure seamless data exchange, including routing mechanisms, information service models, registries, and cybersecurity protocols. He also urged States to advance in SWIM capabilities to enable FF-ICE, meteorological and aeronautical information services.

2.4 Difficulties in implementing SWIM in different regions were recognized, and the need to support the cessation of the 2012 Flight Plan for 2034, as agreed at AN-Conf/14, was reiterated. To this end, the Assembly agreed that ICAO should develop a strategy to facilitate the harmonized implementation of SWIM at the global, regional and national levels.

2.5 Regarding SWIM, the technical commission, in order to avoid fragmentation in the implementation of SWIM, mitigate associated cost increases and better coordinate SWIM operations, indicated that it would be important for ICAO to develop unified global guidance to assess its implementation. The importance of the Globally Unique Flight Identifier (GUFI) for global interoperability was also reiterated, and it was agreed that the relevant expert group should consider the need to establish a mechanism for the allocation and use of GUFIs for cross-border flights.

2.6 The Assembly recognized the accelerated digitalization of the civil aviation system and agreed to forward the proposal for the development of standards and specifications for the flow and transaction of SWIM-based data to the relevant expert group, taking into account the existing provisions on the exchange of information. In addition, he encouraged regional and national SWIM groups to strengthen continued international cooperation.

2.7 Specific challenges related to the exchange of OPMET messages in IWXXM format were also analyzed, as well as other challenges in the transition to structured data-based services

2.8 In the field of aeronautical meteorology, the Assembly, in analyzing the documents submitted by States and international organizations, highlighted the growing impact of hazardous weather events (HMEs) and the need to improve operational resilience in airports and airspaces. The Technical Commission recognized the need to mitigate the safety risks posed by EMHs and improve the resilience of air navigation operations and infrastructure en route and in the terminal area.

2.9 The panel further recalled that there is an ongoing effort led by an ICAO expert group to develop the Hazardous Weather Events Information Service (HWIS), which aims to harmonize the global provision of HME information.

2.10 The Assembly also took note of the note submitted by Brazil for the establishment of a Tropical Cyclone Advisory Centre (TCAC) for the South Atlantic to support the safety and efficiency of air navigation and the improvement of coordination with the World Meteorological Organization (WMO). The Commission recommended that ICAO should continue to coordinate with WMO on this specific issue.

3. Conclusions

3.1 The Assembly reiterated that SWIM constitutes a critical enabler for the implementation of FF-ICE and for the digital evolution of the air navigation system.

3.2 The Assembly recognized the challenges to the implementation of SWIM, and recommended the design of regional and national strategies to accelerate its adoption.

3.3 In the field of Aeronautical Meteorology, the Assembly stressed the need for States to strengthen capacities to mitigate risks arising from dangerous weather phenomena.

3.4 Regarding the South Atlantic CAGR, the Assembly recommended that ICAO continue to coordinate with WMO for technical studies and assessment of the importance of this service for the South Atlantic.

3.5 Consequently, GREPECEAS should:

a) Include in its work programme the development of regional and national strategies for the design and implementation of SWIM,
b) Follow up on guidelines, roadmaps, and products generated by ICAO expert groups on SWIM
c) To promote the building of capacities and technical enablers for SWIM in the areas of aeronautical meteorology, aeronautical information management, flight information, airport information and all information domains,
d) Include in its work program activities to strengthen the management of the risk associated with dangerous weather phenomena for air navigation and airport operations.
e) Monitor the global development of HWIS and consider its implications for the region.

4. Recommended Action

4.1 It is recommended that the Meeting:

a) Take note of this document;

b) Support the actions included in 3.5; and

c) To take other actions that the meeting deems pertinent in the topics considered.

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