



**Nineteenth Meeting of the CAR/SAM Regional Planning and Implementation Group
 (GREPECAS/19)**

Online, 27 – 29 October 2021

Agenda Item 3: GREPECAS Work Programmes, Objectives and Results
3.2 GREPECAS Work Programmes, Objectives and Results

NAM CAR REGIONAL AIRSPACE OPTIMIZATION TEAM

(Presented by Secretariat)

EXECUTIVE SUMMARY

This Information Paper provides a briefing on the regional airspace optimization activities for the CAR Region, where the NACC Regional Office is embarking on an airspace optimization plan that encompasses the next 2-3 years. This plan will be executed by a team consisting of Subject Matter Experts (SMEs) from the CAR States and Flight Information Region (FIRs), CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA), IATA as well as a member from the SAM Regional Office which will include SAM States/FIRs when required to ``tie`` in routes for harmonization. The necessity of optimizing routes is especially important now as we exit the COVID-19 Pandemic. The aviation community and tourism have taken a great economic hit. The goal of the project is to analyse the airspace, both high and low, taking into account current projects, and look for ways to optimize and harmonize it. The Plan will look for any operational improvements where efficiency and safety can be gained, as well as lower carbon footprints, and harmonization with adjacent regions. The project looks to evolve encompassing future technological gains. The team has already met once, October 7th, where the plan and team members were introduced.

Action:	Action indicated in section 6
<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"> • CAR/SAM PBN Airspace Concept 2018

1. Introduction

1.1 The necessity of optimizing routes is especially important now as we exit the COVID.19 Pandemic. The aviation community and tourism has taken a great economic hit. Nevertheless, the air operations are also resuming and recovering to reach levels of growth near the ones in 2019 and so the region needs to assess and prepare for the eventual needs for this shortcoming scenarios.

2. Discussion

2.1 The ICAO NACC Regional Office is collaborating with CADENA on a Regional Optimization Plan for the NAM and CAR Regions. The project will be 2-3 years in length focusing on both high and low altitude routes. This project will move the region forward towards the Free Route Airspace goal of the GANP. The team will be comprised of subject matter experts (SME`s) of the region`s states and FIR`s. The team will also include a regional officer from SAM and members of IATA and CADENA.

2.2 The team will meet regularly and focus on any efficiencies to be gained, no matter how small. The following bullet points are areas of consideration in the plan.

- a) Growth expected to resume after COVID-19 at a 5.7% yearly rate 2021-2041.* Given this growth, now is the time to plan and implement more efficient routes.
- b) The project will take into account and build upon current projects.
- c) Carbon dioxide emissions will be reduced.
- d) This project will coordinate and harmonize new implantations with adjacent regions.
- e) SMEs from the States and FIRs, CADENA and IATA are on the team.
- f) ICAO SAM Regional Office will be included to the harmonization/ interconnection with the CAR Airspace optimization matters (for ex the routes into their airspace, etc.).

2.3 The team is to meet regularly and discuss routes/airspace to be optimized. The team will meet approximately every other month over a period of two to three years. The team will work collaboratively with the users and CADENA working on optimization of the region`s airspace.

2.4 The project will include the CAR States/FIRs and reach out to NAM and SAM Regions as necessary when routes reach into adjacent airspace.

2.5 The project will optimize airspace for efficiency stepping towards Free Route Airspace as required in the Global Air Navigation Plan (GANP). The project will reduce carbon emissions.

3. Project Plan

3.1 States, CADENA and IATA have been working on optimizing high altitude routes in the area for several years. Their approach has been surgical in nature, looking at specific routes. The team will expand on that to a larger scale looking for gains region wide.

3.2 The Team will also take into account lower altitude routes, many that have not been considered in many years and will ensure a marriage between the lower and high altitude routes.

3.3 Following ICAO performance and result based implementation, the Team will measure the success of the new routes using metrics provided by the users.

3.4 The first meeting of the Team took place on 7 October 2021 where ICAO, IATA and CADENA each gave a briefing to the States and the rest of the Team. The second meeting will occur on 18 November together with participation from the ICAO SAM Regional Office.

3.5 Result of the different exchange with the CAR states, IATA and other Team members an initial plan has been formulated as detailed in the **Appendix** to this paper.

4. Conclusion

4.1 The necessity of optimizing routes is especially important now as we exit the COVID Pandemic. Moving towards Free Route Airspace is an ICAO priority listed in the GANP* and the action taken by this team works directly towards that goal.

5. Suggested Actions

5.1 The Meeting is invited to:

- a) take note of the Plan description, objectives, membership and work plan;
- b) participate in the implementation of meeting and activities of the Plan work plan; and
- c) propose any actions as deem necessary.

*GANP/ASBU Elements FRTO-B0/1 (DCT routing) FRTO-B1/1 (FRA) FRTO-B1/2 (RNP routes).



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Regional Airspace Optimization for the NAM and CAR Regions





Objectives

- ✈ Optimize NAM/CAR Airspace to meet growing demand
- ✈ Operational Improvements
- ✈ Gain Efficiency
- ✈ Lower Carbon Footprint
- ✈ Interoperable/ harmonized with adjacent Regions
- ✈ Long Term Solution
- ✈ Implementation time: 2-3 years

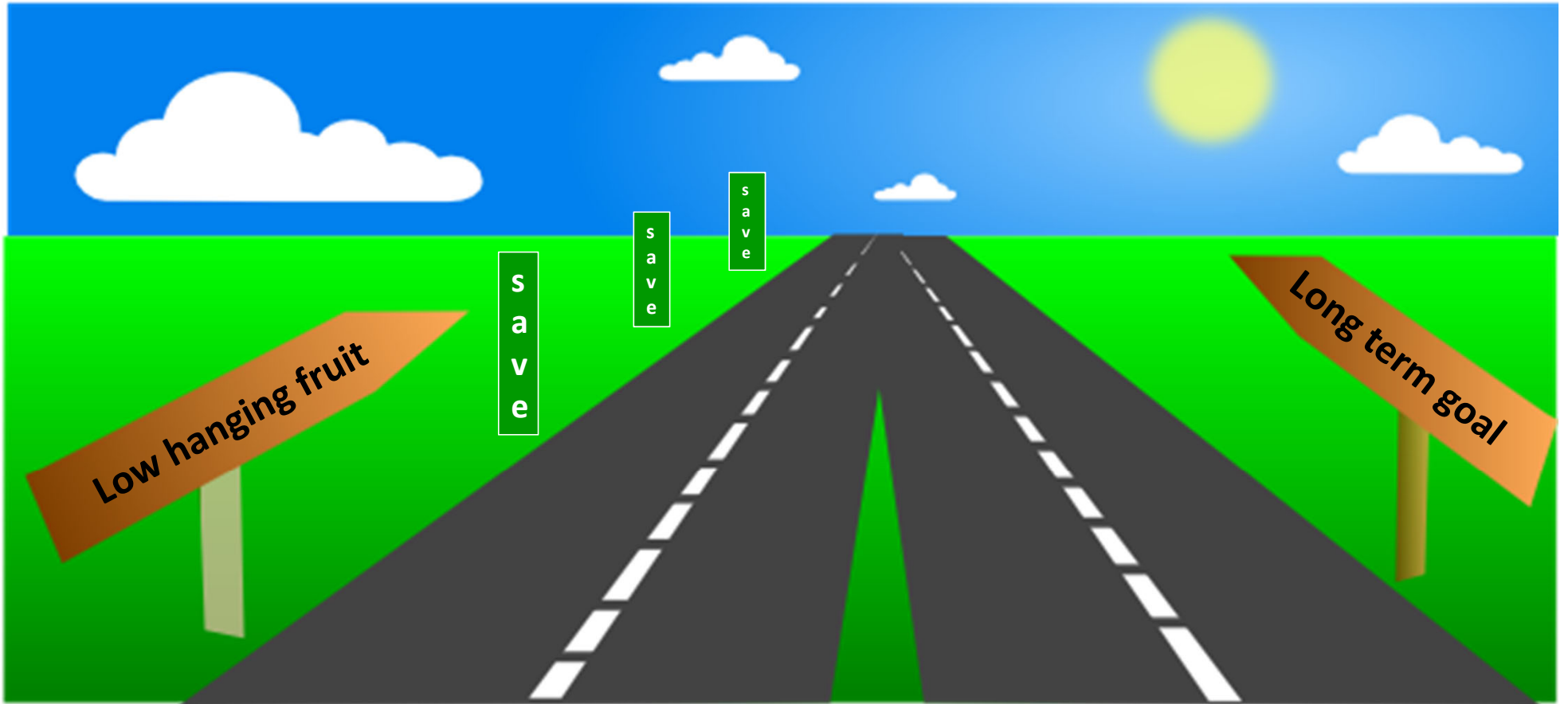


Strategy

- ✈ Communication Component -strategy
 - ✈ Letter Stating Mission
 - ✈ Reporting to DG and Technical AN Implementation Groups
- ✈ Working Methodology:
 - ✈ Gather POC SME from each State
 - ✈ Gather POC/POCs from the user community
 - ✈ Work by groups on sections of airspace
 - ✈ Metrics and indicators
 - ✈ Work with CADENA and IATA
- ✈ ATM Improvement concepts- GANP related: PBN, CCO, CDOs, etc

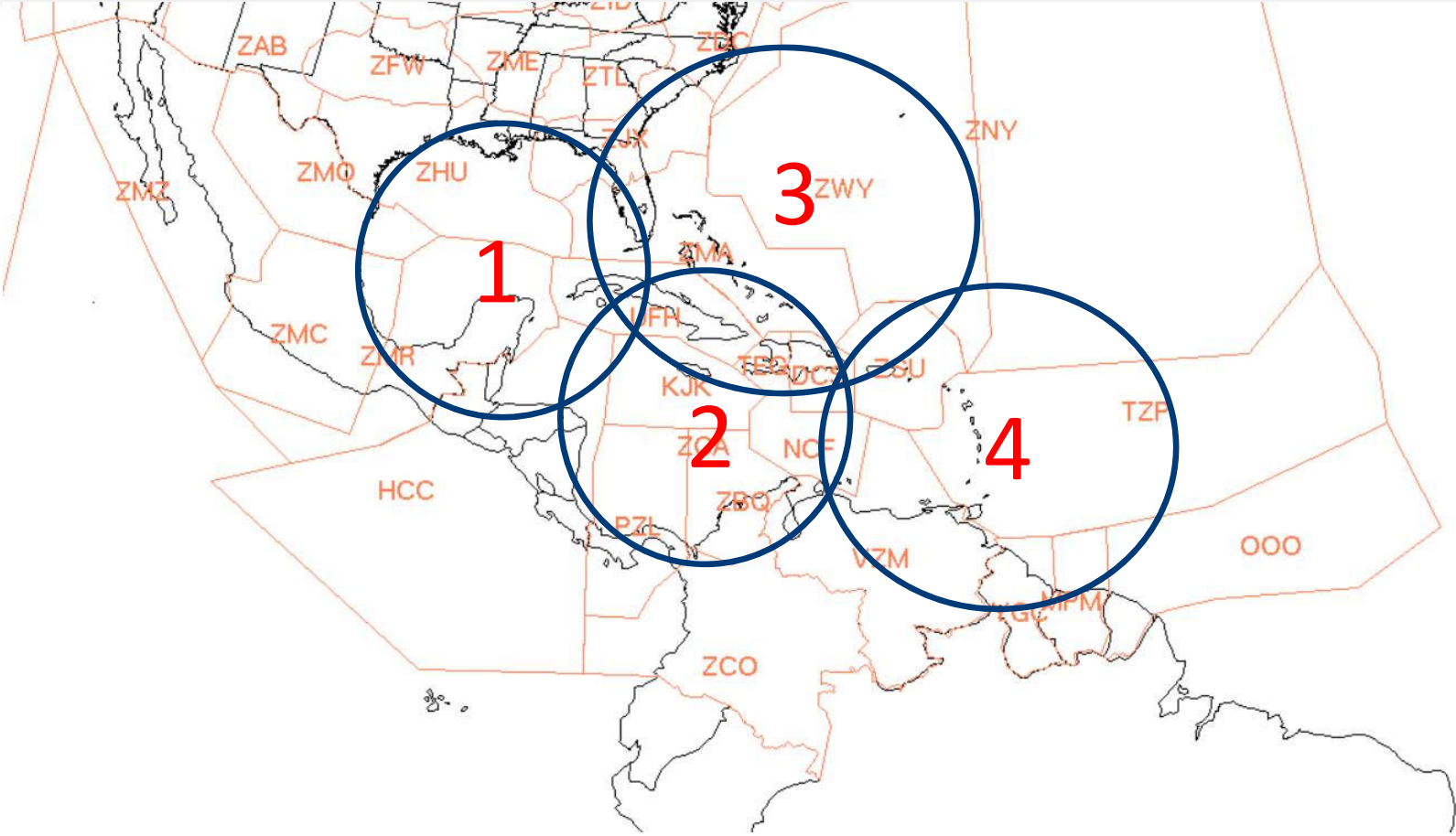


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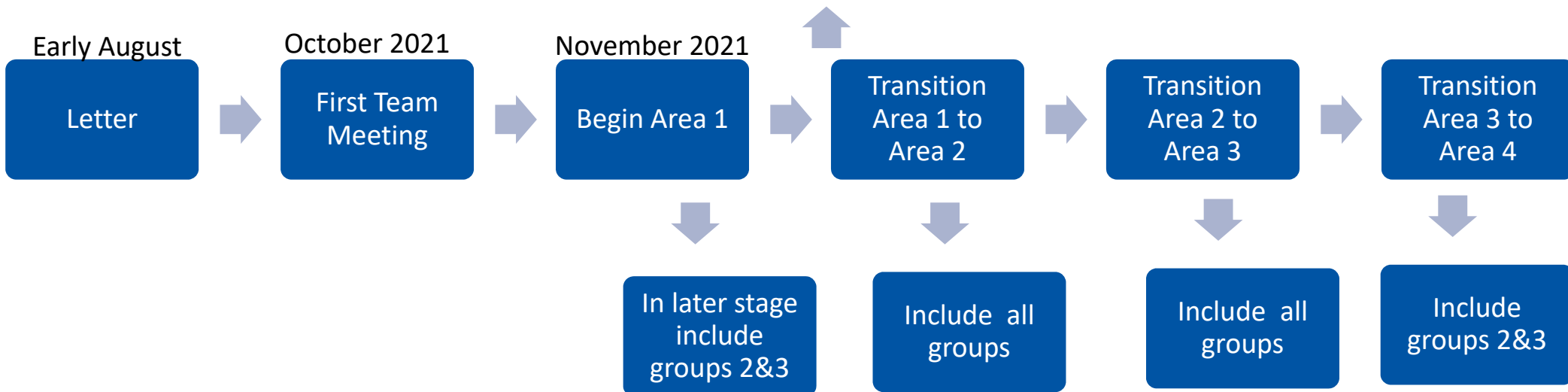
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Proposed Timeline

Martinique Briefing



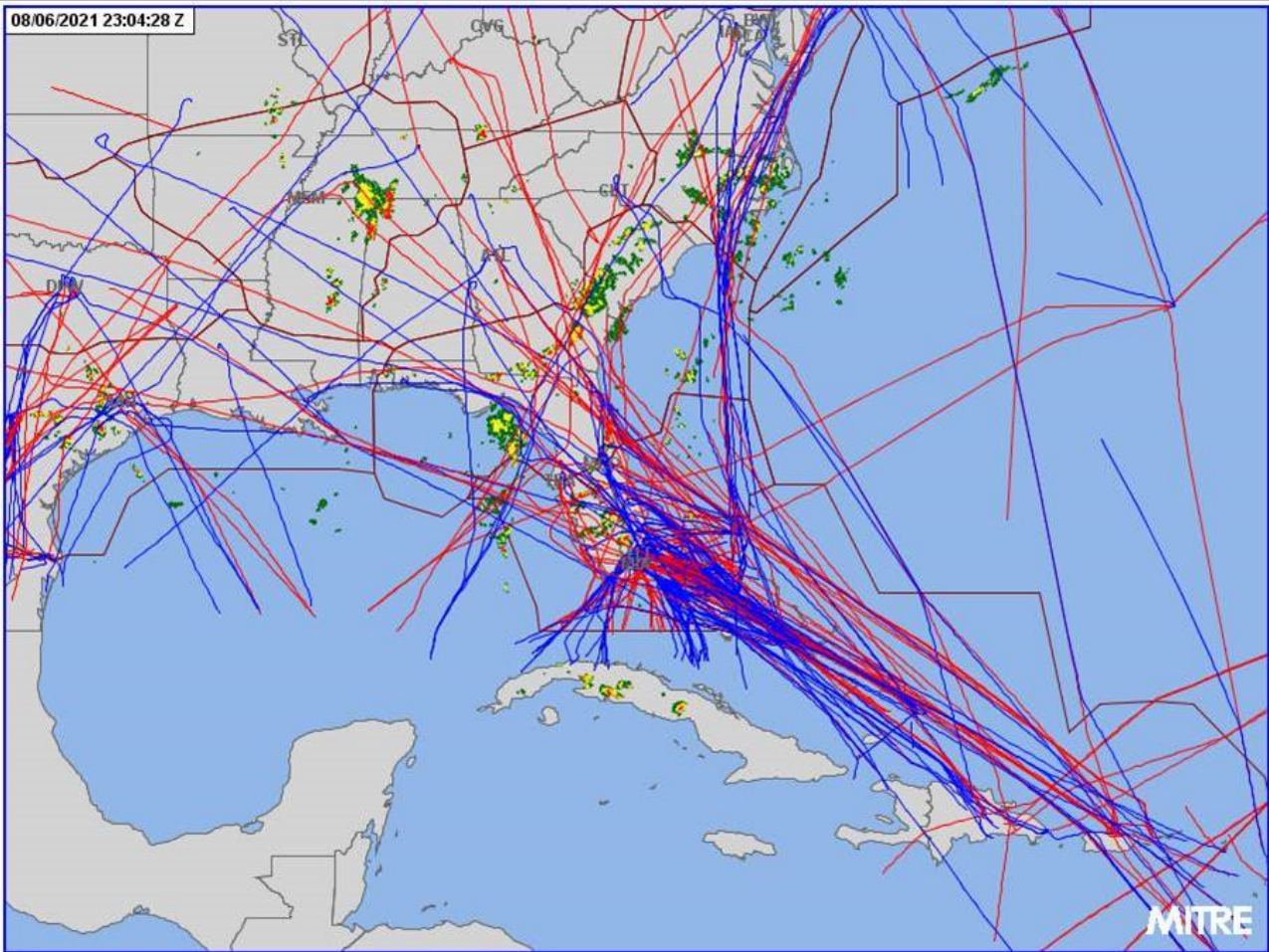


Measuring Success

- ✈ Implement change
- ✈ Compare results with previously measured data

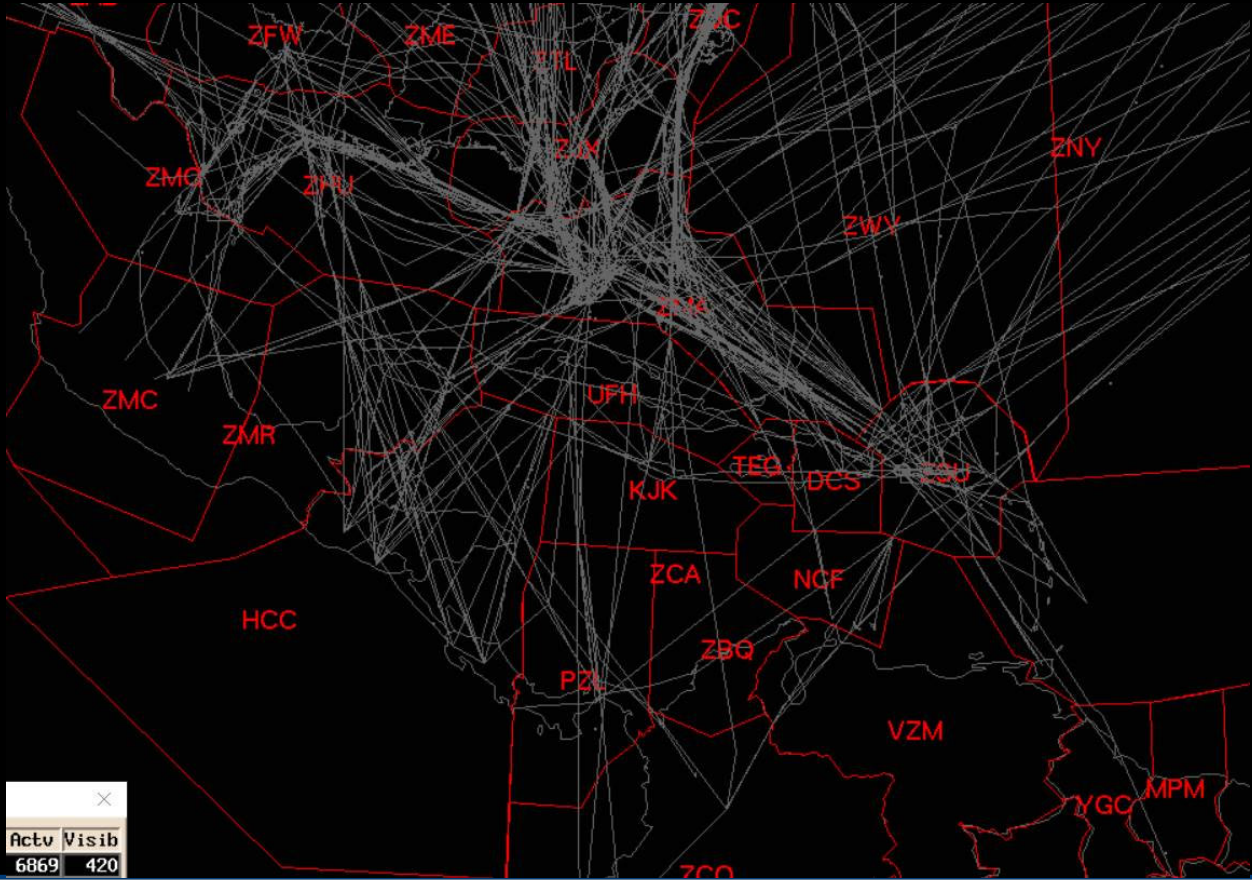


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ATL-MDPC

- ✈ 2015-2019 3.7 flights/day averaging 174 minutes
- ✈ First 2 months of new route averaging 172.5 minutes
- ✈ 33.7 hours saved in 1 year = 11.6 free flights



MIA-SBGR

- ✈ 2015-2019 4.9 flights/day averaging 465 minutes
- ✈ First 2 months of new route averaging 463 minutes
- ✈ 59.6 hours saved in 1 year = 7.7 free flights