

REGIONAL FOCUS

GREPECAS Programmes and Projects Committee (PPRC) Third Virtual Meeting (ePPRC/03)

CADENA Project Advancements - WP/02

Presented by: Jamaica Civil Aviation Authority, Trinidad and Tobago Civil Aviation Authority, Empresa Argentina de Navegación Aérea (EANA), Empresa Cubana de Navegación Aérea (ECNA), Civil Air Navigation Services Organisation (CANSO), Corporación Centroamericana de Servicios Navegación Aérea (COCESNA), International Air Transport Association (IATA)

31 August to 1 September 2021

1. Introduction

CANSO ATFM Data Exchange Network for the Americas - CADENA



Purpose and Objectives of CADENA

- Exchange operational information
 - CADENA members are working to implement data exchange through FAA's SWIM connectivity
 - Airlines, airports, and other aviation stakeholders will be able to access such data in the near future
- Promote common situational awareness
- Enhance operational safety
- Improve operational efficiency

CADENA ANSP Participants



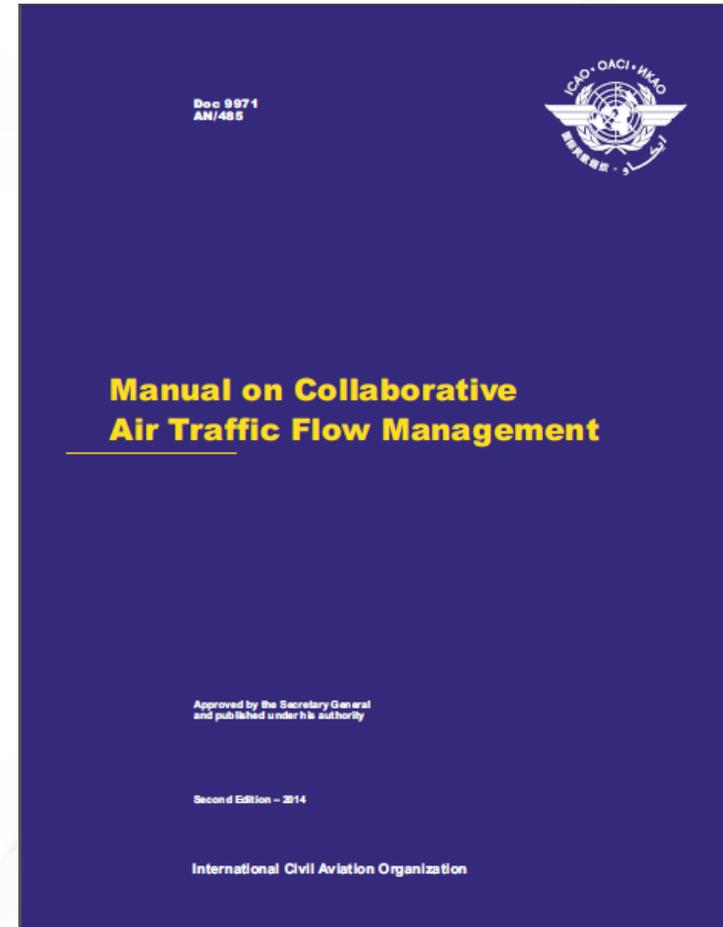
- ANSA (Aruba)
- Caribbean Aviation Resilience and Recovery Group (CARRRG)
- COCESNA (Cenamer)
- UAEAC Colombia
- Costa Rica CAA
- DC-ANSP (Curaçao)
- **EANA (Argentina – CADENA Vice Chair)**
- Ecuador CAA
- ECNA (Cuba)
- FAA Space Operations Office
- FAA (ATCSCC, ZMA, SJU, ZNY, ZHU)
- **IDAC (Dominican Republic – CADENA Chair)**
- INAC (Venezuela)
- JCAA (Jamaica)
- MWCR (Grand Cayman)
- OFNAC (Haiti)
- SENEAM (Mexico)
- Trinidad and Tobago CAA

Key Regional Stakeholders



In Concert with ICAO

- CAR/SAM ATFM CONOPS
- ICAO DOC 9971
- CADENA is designed to implement the processes and procedures from DOC 9971



2. Discussion

Dec 6, 2016: CADENA member CEOs/COOs signed the historic *“CADENA Member ANSP Air Traffic Management and Collaborative Decision-Making Letter of Agreement”*



SENEAM, FAA, EANA, DC-ANSP, COCESNA, TTCAA, IDAC

LETTER OF AGREEMENT

EFFECTIVE: DECEMBER 6TH, 2016.

SUBJECT: CANSO ATFM DATA EXCHANGE NETWORK FOR THE AMERICAS (CADENA) MEMBER ANSP AIR TRAFFIC MANAGEMENT AND COLLABORATIVE DECISION MAKING

The CADENA Members (hereafter referred to as Members) enter into this letter of agreement (LOA) to facilitate the safe and efficient movement of air traffic between and through Member air navigation service provider (ANSP) flight information regions (FIR).

1. PURPOSE: The purpose of this LOA is to facilitate the safe and efficient movement of air traffic and to establish continuity of operations through air traffic flow management (ATFM) and collaborative decision-making (CDM) procedures and processes between the Members. This LOA promotes communication, collaboration and coordination between the Members regarding ATFM and CDM measures. The information shared among CADENA members is only for the purpose of aviation use.

2. SCOPE: This agreement establishes a common regional, cross-border air traffic management (ATM) communications protocol, a seamless operational atmosphere that incorporates common operating procedures and practices, and a performance reporting and review structure and process. The procedures herein are for use by Members to provide normal and contingency ATFM services and for developing regional ATFM/CDM procedures. This LOA is a non-binding regional operational agreement and is not intended to replace any local agreements or any other LOAs between Members.

3. BACKGROUND:

a. CANSO's main objective is to support its Members in the provision of safe, efficient and cost-effective air navigation services worldwide. The CANSO Operations Standing Committee (OSC) provides operational leadership and expertise in the implementation of ATM improvements and identifies future technologies and procedures to help transform global ATM

“This Letter of Agreement promotes communication, collaboration and coordination between the Members regarding ATFM and CDM measures.”

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RB

“The LoA promotes communication, collaboration, and coordination between the participating ANSPs and ATO Space Ops, with information shared among participating CADENA ANSPs and stakeholders for the purpose of enhancing aviation safety”



LETTER OF AGREEMENT

EFFECTIVE: DECEMBER 3, 2020

SUBJECT: CANSO ATFM DATA EXCHANGE NETWORK FOR THE AMERICAS (CADENA) SPACE LAUNCH AND RECOVERY PROTOCOLS

The participating CADENA Air Navigation Service Providers (ANSPs) and the Federal Aviation Administration (FAA) Air Traffic Organization (ATO) Space Operations office (ATO Space Ops) enter into this Letter of Agreement (LOA) to facilitate the safe and efficient movement of space launch and recovery between and through participating ANSP flight information regions (FIRs).

1. PURPOSE: The purpose of this LOA is to facilitate the safe and efficient movement of space launch and recovery operations between and through participating ANSP FIRs. This LOA promotes communication, collaboration, and coordination between the participating ANSPs and ATO Space Ops regarding space launch and recovery operations. The information shared among participating CADENA participating ANSPs and stakeholders is for the sole purpose of aviation safety.

2. SCOPE: This agreement establishes a common regional, cross-border air traffic management (ATM) communications protocol, a seamless operational atmosphere that incorporates common operating procedures and practices, and a performance reporting and review structure and process. The operations described herein are for use by participating CADENA ANSPs and ATO Space Ops to provide space launch and recovery information. This LOA is a non-binding regional operational agreement and is not intended to replace any local agreements or any other LOAs between participating ANSPs.



CANSO and CGH Technologies, Inc. partner to provide ANSPs with new platform for enhancing air traffic management

CANSO and CGH Technologies, Inc virtual signing



Cindy Troutman
President CGH Technologies, Inc

Simon Hocquard
CANSO Director General

The new platform, CADENCE (CANSO Air Traffic Flow Management (ATFM) Data Exchange Network for Cooperative Excellence).

The agreement secures the provision of a purpose-built collaborative software platform based on the successful regional initiative **CADENA (CANSO ATFM Data Exchange Network for the Americas)**.

CADENCE is now a globally available platform

- Aug 2016: 1st CADENA Meeting in Cuba
- Oct 2016: 2nd CADENA Meeting Argentina
- Dec 2016: CADENA Ops Planning Web Conference
 - Dec 16 – “Live”
- Jan 2017: Stakeholder participation in the CADENA Ops Planning Web Conference began
- Feb 2017: 3rd CADENA Meeting and Industry Day in Curaçao
- Jun 2017: 4th CADENA Meeting in Jamaica
- Oct 2017: 5th CADENA Meeting in Rio de Janeiro
- Jul 2018: 6th CADENA Meeting in Atlanta, GA
- Jan 2019: 7th CADENA Meeting in Santo Domingo
- July 2019: 8th CADENA Meeting in Miami, FL
- Mar 2020: 9th CADENA Meeting in Miami, FL
- Sep 2020: 10th CADENA Meeting (Virtual)
- Mar 2021: 11th CADENA Meeting (Virtual)

CADENA Implementation Roadmap



3. Development

CADENA Operational Implementation

Accomplishments to-date:

- Caribbean Region CDM Letter of Agreement (LOA)
- CADENA Space Launch and Recovery LOA
- CADENA Operational Information System (OIS)
- Operational Web Conferences (Weekly)
- Hurricane Web Conferences
- Regular CADENA leadership team meetings
- Shared best practices

Accomplishments to-date:

- TTCAA: First international data provider to connect to FAA SWIM
- CADENA ATFM/CDM Procedures Manual
- CADENA CDM Web Conferences
- Quarterly Contingency Trainings

CADENA Procedures Manual

ANSP Contingency Form

CADENA LoA FMU to FMU



Civil Air Navigation Service Organisation Air Traffic Flow Management Data Exchange Network for the Americas

CADENA Air Traffic Flow Management and
Collaborative Decision Making Procedures Manual

October 31, 2019
Version 5



ANSP CONTINGENCY FORM

Impacted Facility / Sector: _____

REF #: _____

Type of Contingency

Communication Facility Surveillance Staffing Other

Detail

[Click here to enter text.](#)

Traffic Management measures

Miles-in-trail (MIT) Minutes-in-trail (MINIT) Re-routing
 Fix Balancing Level Capping Tunnelling
 Airborne Holding Ground Delay Program (GDP) Ground Stop (GS)
 Airspace Flow Program (AFP)

Detail

[Click here to enter text.](#)

FIRs Affected

TTZP TJSZ SVZM TNCF MDCS
 MTEG KZMA KZWY KZHU MUFH
 MKJK MMFR MHCC MPZL SKEC
 SKED SARR SACF SAEF SAVF
 ____ ____

Start Time

[Click here to enter text.](#)

End Time

[Click here to enter text.](#)

Addendum to the Letter of Agreement

SUBJECT: AIR TRAFFIC FLOW MANAGEMENT (ATFM) COLLABORATION

1. PURPOSE

The purpose of this addendum is to facilitate the safe and efficient movement of air traffic and establish continuity of operations through Air Traffic Flow Management (ATFM) and Collaborative Decision Making (CDM) procedures between the ANSP1 FMU1 located in (city/country), and the ANSP2 FMU2 located in (city/country). This addendum will promote coordination and collaboration between FMU1 and FMU2 regarding Traffic Management Measures (TMMs) and the routing of aircraft in and out of the ANSP1 FIR and the ANSP2 FIR. FMU1 and FMU2 will be the primary points of contact for coordinating TMMs and operations between ANSP1's ACC and ANSP2's ACC.

2. SCOPE

This addendum establishes ATFM/CDM procedures and communications protocol that promote a seamless operational atmosphere which incorporates operational procedures and practices. The procedures outlined herein are to be used by the FMU1 and the FMU2 to assist in providing ATFM services.

This addendum is not intended to replace any local agreements or any other LOAs between the ANSP1's ACC and ANSP2's ACC.

3. BACKGROUND

Traffic Flow Management continues to evolve as new procedures and technologies are developed. As such, it is possible that FMU1 TMMs may include and affect departures from ANSP2's airports and ANSP2's airspaces. Likewise, FMU2 TMMs may include and affect departures from ANSP1's airports and ANSP1's airspaces.

ANSP1 and ANSP2 have established Air Traffic Services (ATS) operational agreements creating cross-border communications and a seamless operational atmosphere. This addendum incorporates FMU1's and FMU2's operational procedures and practices.

4. COORDINATION PROCEDURES

4.1. Communication Systems

The means of communication to be used for pre-tactical and tactical ATFM coordination shall be those listed in the main LOA as well as:

- Dedicated commercial telephone numbers for ATFM coordination (commercial telephone numbers are shown in the annex to this addendum);
- Web-based capabilities; and
- Any other means of communication available.

The screenshot displays the CADENA OIS website interface. On the left is a map of the Americas with red outlines of flight information regions. On the right is a 'Regional Operations Plan' for Trinidad & Tobago, dated 29/Aug/2021 at 16:40. The plan includes sections for Anticipated Demand Information (MEDIUM), TMM Planned (NONE), Urgent Advisory, Weather (WSCA31 TTPP 291608), Volcanic Ash (NONE), Constraints (NONE), Special Events (NONE), Equipment Outages (NONE), and Other (COVID 19 RESTRICTIONS IN PLACE. SEE NOTAMS.). A list of flight information regions follows, including TAPA, TFFF, TFFR, TGPY, TKPK, TKPN, TLPC, TLPL, and TVSA.

Information Regional TMM ⁶ Active Reroutes ⁰ Delays ⁰ Advisories ⁴ Español

Regional Operations Plan

TTCAA Trinidad & Tobago :29/Aug/2021 16:40

Anticipated Demand Information MEDIUM

TMM Planned NONE

Urgent Advisory

Weather WSCA31 TTPP 291608
TTZP SIGMET 5 VALID 291600/292000 TTPP-
TTZP PIARCO FIR OBS EMBD TS AT 1545Z WI N1800 W04954 -
N1800 W04619 - N1615 W04636 - N1421 W04752 - N1800 W04954
CB TOP ABV FL450 MOV N 09KT INTSF=
=

Volcanic Ash NONE

Constraints NONE

Special Events NONE

Equipment Outages NONE

Other COVID 19 RESTRICTIONS IN PLACE. SEE NOTAMS.

TAPA - A1325/21
TFFF - A1360/21
TFFR - A1351/21
TGPY - A1293/21
TKPK - A1214/21, A1035/21, A1026/21, A1025/21
TKPN - A1024/21
TLPC - A1136/21, A1072/21, A1059/21
TLPL - A1135/21, A1104/21, A1058/21, A1045/21
TVSA - A1375/21, A1374/21, A1326/21

THE NEXT CADENA PLANNING WEB CONFERENCE WILL BE HELD ON THURSDAY, SEPTEMBER 2, 2021 AT 1400 UTC

29/Aug/2021 18:19:52

<https://www.cadenaois.org/index.html>

ATFM Daily Plan Link Files

Browser address bar: https://www.cadenois.org/vpublic_adpfiles.jsp

Page Header: **CADENAOIS** | **ADP Files** | Español | ANSP / Airline Login

Left Navigation Menu:

- ATFM Daily Plan
- Information
 - Master Slide Deck
 - ADP Link Files
 - Reroute Repository
 - Airport Capacity
 - Contingency Form
 - Sector Capacity
 - Participant List
 - Acronyms
 - LOA List
- Regional TMM
- Active Reroutes
- Delays
- Advisories
- ANSPs
- Airlines

ANSP	Uploaded By	File Name	Upload Time
CADENAHQ	Joe Hof	CADENA Update - Corona Virus Limitations by ANSP - 08 29 2021 update - 1300 UTC - Full version.docx	29/Aug/2021 11:31
UAEAC	Eduardo Gonzalez	PDA FCMU COL 29082021.pdf	29/Aug/2021 11:18
IDAC	IDAC ATFMCDM	NotamsInForce.pdf	27/Aug/2021 12:25
JCAA	Yannick Francis	AIRAC AIP AMDT 02_21 EFF 07 OCT 21 (1).pdf	26/Aug/2021 12:40
IDAC	IDAC ATFMCDM	NotamsInForce.pdf	26/Aug/2021 10:16
JCAA	Yannick Francis	AIC 22_21 - Extension of Travel Ban.pdf	12/Aug/2021 14:05
EANA	FMU EZE	AIC A26 - SANITARY EMERGENGY - EXTENSION.pdf	12/Aug/2021 11:08
JCAA	Yannick Francis	AIP SUPP 03_21 RE SUSPENSION OF SDVOR DME.pdf	27/Jun/2021 12:42
JCAA	Yannick Francis	AIC A18_2021-Travel Ban Extended - Covid 19.pdf	03/Jun/2021 12:43
JCAA	Yannick Francis	AIRAC AIP AMDT 01_21 EFF 20 MAY 21.pdf	20/May/2021 12:37
JCAA	Yannick Francis	AIC 12_21 Pratt & Whitney Engines not permitted.pdf	20/May/2021 12:32
JCAA	Yannick Francis	AIC A16_2021 - AMENDED COVID 19 TRAVEL PROTOCOLS.pdf	13/May/2021 12:50
JCAA	Yannick Francis	AIC A14_2021 - AMENDED COVID 19 TRAVEL PROTOCOLS.pdf	18/Apr/2021 11:12
JCAA	Yannick Francis	AIC A13_21 EXPANDED TRAVEL BAN -UK & SPECIFIED SOUTH AMERICAN COUNTRIES.pdf	15/Apr/2021 12:39
JCAA	Yannick Francis	AIC A12_2021 - AMENDED COVID 19 TRAVEL PROTOCOLS.pdf	08/Apr/2021 13:10

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CADENA and COVID-19



CADENA COVID-19 Limitations Update is sent to CADENA Members (ANSPs and Airlines)

Browser address: https://www.cadenois.org/vpublic_adpfiles.jsp

Language: Español | ANSP / Airline Login

CADENA OIS

- ATFM Daily Plan
- Information
 - Master Slide Deck
 - ADP Link Files
 - Reroute Repository
 - Airport Capacity
 - Contingency Form
 - Sector Capacity
 - Participant List
 - Acronyms
 - LOA List
- Regional TMM
- Active Reroutes
- Delays
- Advisories
- ANSPs
- Airlines

ADP Files

ANSP	Uploaded By	File Name	Upload Time
CADENAHQ	Joe Hof	CADENA Update - Corona Virus Limitations by ANSP - 08 29 2021 update - 1300 UTC - Full version.docx	29/Aug/2021 11:31
UAEAC	Eduardo Gonzalez	PDA FCMU COL 29082021.pdf	29/Aug/2021 11:18
IDAC	IDAC ATFMCDM	NotamsInForce.pdf	27/Aug/2021 12:25
JCAA	Yannick Francis	AIRAC AIP AMDT 02_21 EFF 07 OCT 21 (1).pdf	26/Aug/2021 12:40
IDAC	IDAC ATFMCDM	NotamsInForce.pdf	26/Aug/2021 10:16
JCAA	Yannick Francis	AIC 22_21 - Extension of Travel Ban.pdf	12/Aug/2021 14:05
EANA	FMU EZE	AIC A26 - SANITARY EMERGENGY - EXTENSION.pdf	12/Aug/2021 11:08
JCAA	Yannick Francis	AIP SUPP 03_21 RE SUSPENSION OF SDVOR DME.pdf	27/Jun/2021 12:42
JCAA	Yannick Francis	AIC A18_2021-Travel Ban Extended - Covid 19.pdf	03/Jun/2021 12:43
JCAA	Yannick Francis	AIRAC AIP AMDT 01_21 EFF 20 MAY 21.pdf	20/May/2021 12:37
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JCAA	Yannick Francis	AIC A16_2021 - AMENDED COVID 19 TRAVEL PROTOCOLS.pdf	13/May/2021 12:50
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JCAA	Yannick Francis	AIC A12_2021 - AMENDED COVID 19 TRAVEL PROTOCOLS.pdf	08/Apr/2021 13:10

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CADENA Update - Coronavirus Operational Limitations
Updated: August 29, 2021 (1300 UTC)

NOTE: Changes from the previous update are shown in RED font

FACILITY	IMPACT	NOTAM/ AIC
	PIARCO	
	USERS SHOULD CHECK ALL NOTAMS. ALL CDM PARTNERS MAY LOG ON TO HTTPS://CAA.GOV.TT/NOTAM/	
TTPP	A1243/21 – TTPP – FROM 2107190115 2110190000 – THE MINISTER OF NATIONAL SECURITY HEREBY ADVISES,PURSUANT TO REGULATION 7 OF THE PUBLIC HEALTH (2019 NOVEL CORONAVIRUS,2019-NCOV) (NO. 17) REGULATIONS, 2021 PUBLISHED BY LEGAL NOTICE NO. 186 OF 2021 AND REGULATION 7 OF THE PUBLIC HEALTH(2019 NOVEL CORONAVIRUS, 2019-NCOV) (NO. 18) REGULATIONS, 2021 PUBLISHED BY LEGAL NOTICE NO. 195 OF 2021, THAT WITH EFFECT FROM SATURDAY JULY 17, 2021 AND, CONTINUING UNTIL FURTHER NOTICE, PERMISSION WAS AND HAS BEEN GRANTED FOR THE OPENING OF ALL AIR AND SEA PORTS AND/OR ANY PLACE WHERE AN AIRCRAFT AND/OR SHIP AND/OR VESSEL CAN LAND FOR THE ARRIVAL AND/OR DEPARTURE OF AIRCRAFT AND/OR SHIPS AND/OR OTHER VESSELS CARRYING PASSENGERS AND/OR CARGO AND/OR OTHERWISE ARRIVING AND/OR DEPARTING.TAKE NOTICE THAT THE LAWS OF THE REPUBLIC OF TRINIDAD AND TOBAGO, INCLUDING BUT NOT LIMITED TO THE PROVISIONS OF IMMIGRATION ACT CH 18:01 REGARDING THE ENTRY OF PERSONS INTO AND OUT OF TRINIDAD AND TOBAGO, SHALL APPLY AND THAT THE ENTRY OF PERSONS INTO TRINIDAD AND TOBAGO SHALL ALSO BE GOVERNED BY AND BE IN ACCORDANCE WITH INTER ALIA THE MINISTRY OF HEALTH QUARANTINE PROTOCOLS FOR PASSENGERS ENTERING INTO TRINIDAD AND TOBAGO DATED JULY 15, 2021.	A1243/21
TTCP	A1244/21 – TTCP – FROM 2107191730 TO 21010192200 – THE MINISTER OF NATIONAL SECURITY HEREBY ADVISES,PURSUANT TO REGULATION 7 OF THE PUBLIC HEALTH (2019 NOVEL CORONAVIRUS, 2019-NCOV)(NO.17) REGULATIONS 2021, PUBLISHED BY LEGAL NOTICE NO. 186 OF 2021 AND REGULATION 7 OF THE PUBLIC HEALTH (2019 NOVEL CORONAVIRUS, 2019-NCOV)(NO.18) REGULATIONS 2021, PUBLISHED BY LEGAL NOTICE NO. 195 OF 2021, THAT WITH EFFECT FROM SATURDAY JULY 17, 2021 AND CONTINUING UNTIL FURTHER NOTICE, PERMISSION WAS AND HAS BEEN GRANTED FOR THE OPENING OF ALL AIR AND SEA PORTS AND/OR ANY PLACE WHERE AN AIRCRAFT AND/OR SHIP AND/OR VESSEL CAN LAND FOR THE ARRIVAL AND/OR DEPARTURE OF AIRCRAFT AND/OR SHIPS AND/OR OTHER VESSELS CARRYING PASSENGERS AND/OR CARGO AND/OR OTHERWISE ARRIVING AND/OR DEPARTING. TAKE NOTICE THAT THE LAWS OF TRINIDAD AND TOBAGO , INCLUDING BUT NOT LIMITED TO THE PROVISIONS OF IMMIGRATION ACT CH 18:01 REGARDING THE ENTRY OF PERSONS INTO AND OUT OF TRINIDAD AND TOBAGO, SHALL APPLY AND THAT THE ENTRY OF PERSONS INTO TRINIDAD AND TOBAGO SHALL ALSO BE GOVERNED AND BE IN ACCORDANCE WITH INTER ALIA THE	A1244/21

Disclaimer: This update does not contain all pertinent NOTAM information. It represents summary information provided by the CADENA stakeholders as of this date and time.

Advisories: Urgent / FYI and email push notifications



- CADENAOIS
- ATFM Daily Plan
- Information
- Regional TMM
- Active Reroutes
- Delays
- Advisories
- ANSPs
- Airlines

Advisories

Español

ANSP / Airline Login

Regional Advisories

ID	ANSP / Airline	Type	Start Date	End Date	Summary	Reason	
197	CADENAHQ	FYI	31/OCT/2020 12:00	31/DEC/2021 00:00	ICAO NACC COVID-19 Website - Resource	COVID-19 information for situational awareness in the NAM/CAR Regions	Details
400	CADENAHQ	FYI	28/JUL/2021 12:00	31/JUL/2021 00:00	CADENA COVID-19 Limitations	COVID-19 Restrictions	Details
396	ECNA	FYI	08/JUN/2021 17:51	30/SEP/2021 23:59	A1787/21 NOTAMN	OVERFLY PERMIT REQUIRED	Details
420	EANA	Urgent	28/JUL/2021 18:00	29/JUL/2021 00:00	RESISTENCIA ACC OUTAGE	NOTAM A3992/21	Details
423	EANA	Urgent	28/JUL/2021 18:00	29/JUL/2021 00:00	RESISTENCIA ACC cellphone number and email address	AMHS OUTAGE	Details
421	EANA	Urgent	28/JUL/2021 18:00	29/JUL/2021 00:00	RESISTENCIA ACC OUTAGE	NOTAM A3991/21	Details

EANA Argentina has just submitted a new Urgent Advisory

CADENA [system@cadenaois.org]

To: system@cadenaois.org



Wednesday, July 28, 2021 1:26 PM

Greetings from CADENA:

EANA Argentina has just submitted an Urgent Advisory as shown below.

ANSP/Airline Name: **EANA Argentina**

Type: **Urgent Advisory**

Start Date: **28/Jul/2021 18:00**

End Date: **29/Jul/2021 00:00**

Summary: **RESISTENCIA ACC OUTAGE**

Reason: **NOTAM A3992/21**

Details: **(NOTAM A3992/21) RESISTENCIA ACC SER SURVEILLANCE RADAR NOT PROVIDED IN SECTOR. 28 JUL 13:59 2021 UNTIL 28 JUL 23:59 2021 ESTIMATED. CREATED: 28 JUL 14:03 2021**

HURRICANE NORA – 1600 UTC – AUGUST 29, 2021



← → ↻ 🏠 🔒 https://www.cadenaois.org/secure/hurricanewebconf.jsp

CADENA OIS **CANSO** **CADENA** **CADENA HQ** Español [Chat](#) [? Help](#) [Settings](#) [Logout](#)

Hurricane / Crisis / Contingency / Huracán / Crisis / Contingencia

Drop files here to upload (Max 25Mb)

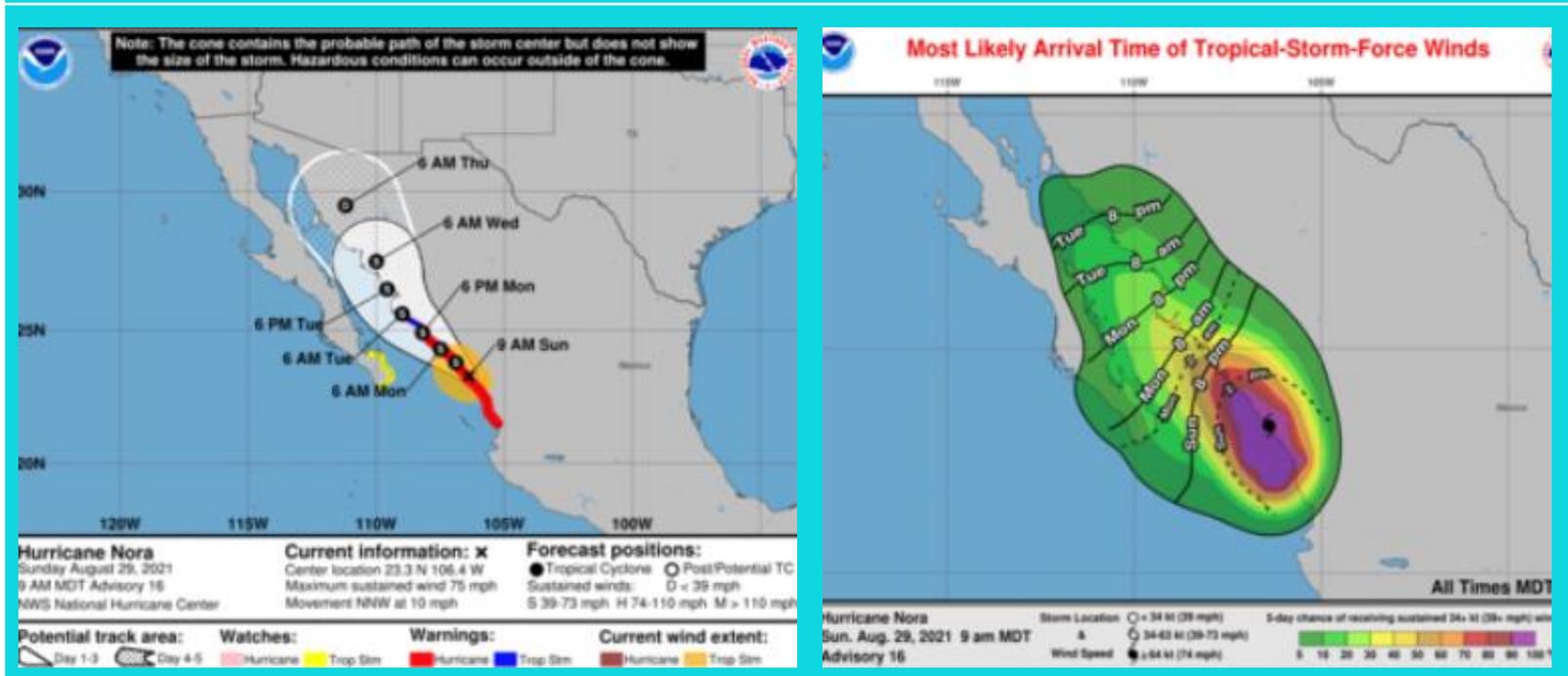
ANSP	Uploaded By	File Name	Upload Time
SENEAM	Ale	HURRICANE NORA 29 AUG 2021_2.pptx	2021/08/29 16:11

A CANSO Project.

HURRICANE NORA – 1600 UTC – AUGUST 29, 2021



PROJECTED PATH IN YOUR AIRSPACE





PROJECTED IMPACT

DAY 2

STAFFING ISSUES: NONE
EQUIPMENT OUTAGES: NONE

AIRPORT CLOSING: MMZO, MMMZ

MMZO A4797/21 - AP CLSD. 29 AUG 12:46 2021 UNTIL 29
AUG 20:00 2021.

MMMZ A4799/21 - AP CLSD. 29 AUG 15:37 2021 UNTIL 29
AUG 17:37 2021.

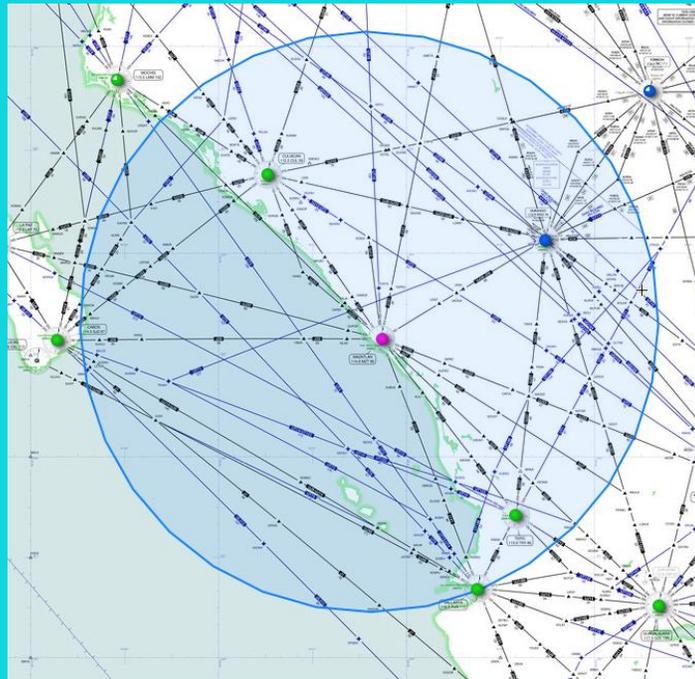
DAY 3-4

STAFFING ISSUES: NONE
EQUIPMENT OUTAGES: NONE



AFFECTED ROUTES

ROUTE CLOSURES



PLANNED TRAFFIC MANAGEMENT MEASURES

- No TMM's PLANNED FOR NOW



OTHER ISSUES

- NORA IS FORECAST TO BE AT OR NEAR HURRICANE STRENGTH WHILE IT MOVES NEAR THE COASTS OF NAYARIT AND SINALOA.
- HURRICANE WARNINGS FOR PORTIONS OF NAYARIT AND SINALOA.
- HEAVY RAIN IS EXPECTED THE STATES OF COLIMA NORTHWARD TO SOUTHERN SONORA.
- LIFE-THREATENING FLASH FLOODING AND MUDSLIDES ARE EXPECTED.
- NORA MOVE NORTH-NORTHWESTWARD OVER THE GULF OF CALIFORNIA TUESDAY AND WEDNESDAY BRINGING WIND TO PORTIONS OF BAJA CALIFORNIA SUR, NORTHERN SINALOA AND SONORA.

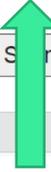
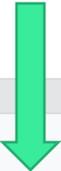
CADENA OIS Planned Airways System Alternative (PASA) Routes

CADENA OIS ECNA Cuba Español Procedures Chat Help Settings Logout

PASA Route Requests

To ANSP(s): Requestor:

Request:



CADENA COVID-19 Vaccine Priority Flight Coordination



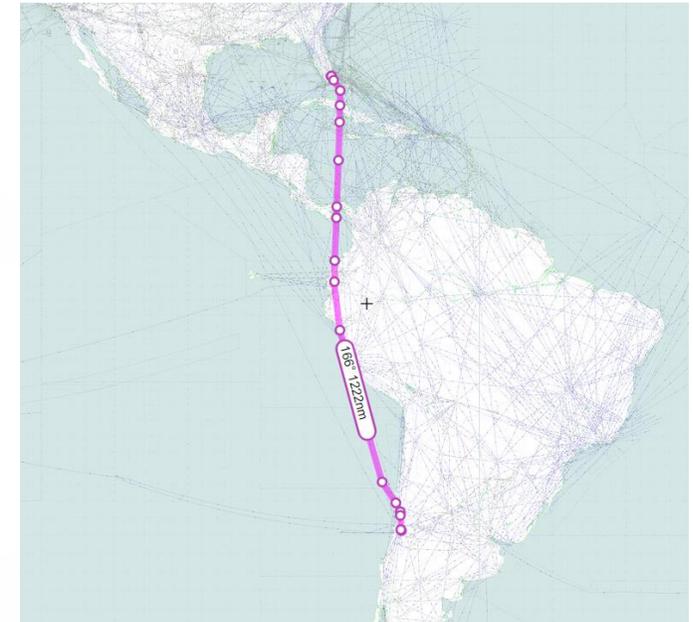
American Airlines activated the CADENA PASA route mechanism requesting a Vaccine Priority flight from Miami to Santiago de Chile. In the hours before the flight's departure, CANSO, the FAA Miami Center, ECNA, Jamaica, Panama, Colombia, Ecuador, Peru, and Chile received information and acknowledged the high priority mission.

The ANSPs coordinated an optimum route through their airspace and notified air traffic controllers and supervisors.

During the flight, the controllers and supervisors made sure the flight received priority handling.

The shipment arrived in SCL on time and successfully delivered to the customer at planeside. With the president of Chile at the airport watching this transfer, the movement had live press coverage.

PASA ROUTE REQUEST DEC 31, 2020





PASA ROUTE REQUEST AUG 28, 2021



PASA ROUTE REQUEST NOV
16, 2020

Chat room

CADENA WhatsApp Chat – Hurricane Delta

CADENA training



Exercise Introduction

➤ Our goal is to train like we respond

- Operational and personnel safety come first!
- Ensure good communication and teamwork
- Use the CADENA Contingency Event checklist
- Use the capabilities in the CADENA OIS

FMU Actions

➤ CADENA Procedures Manual: Appendix D

Impacted Facility: KINGSTON ACC

Follow-Up AFM Actions

- Notify CADENA and KORD leadership as soon as possible
- Gather information on:
 - How long is the ACC expected to be out of service?
 - What is the impact to demand and capacity?
 - Have aircraft diverted?
 - If so, how many and to which airports?
- CADENA leadership will, as soon as possible, schedule and conduct a CADENA CDM web conference, including airspace users, to relay available information and establish next steps

NOTE: The situation may require scheduling a daily webex for the first few

Hurricane Isaac

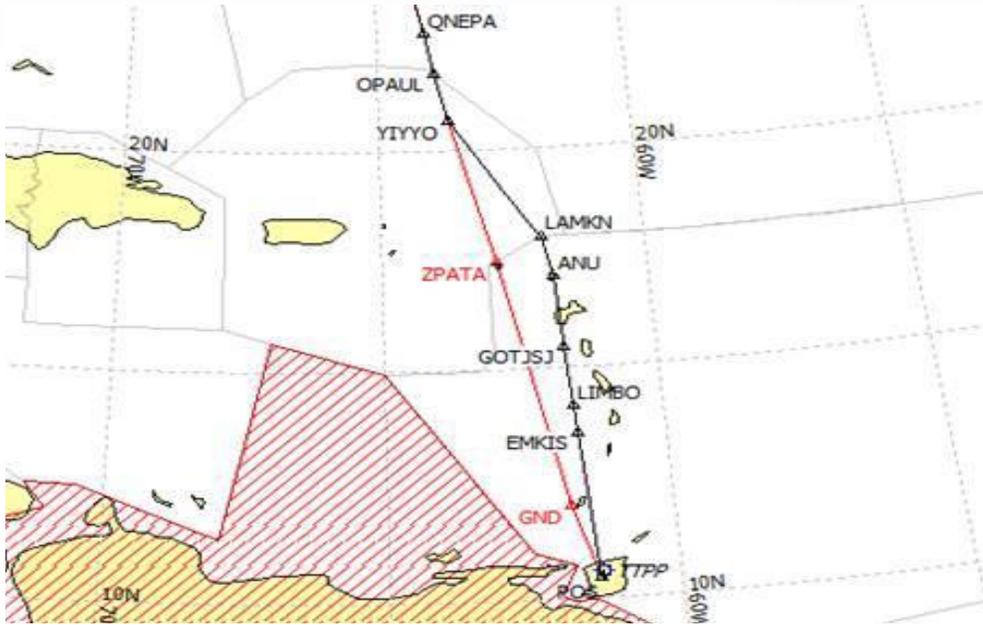
CADENA HURRICANE ISAAC UPDATE – 1400 UTC

PIARCO – March 24, 2021

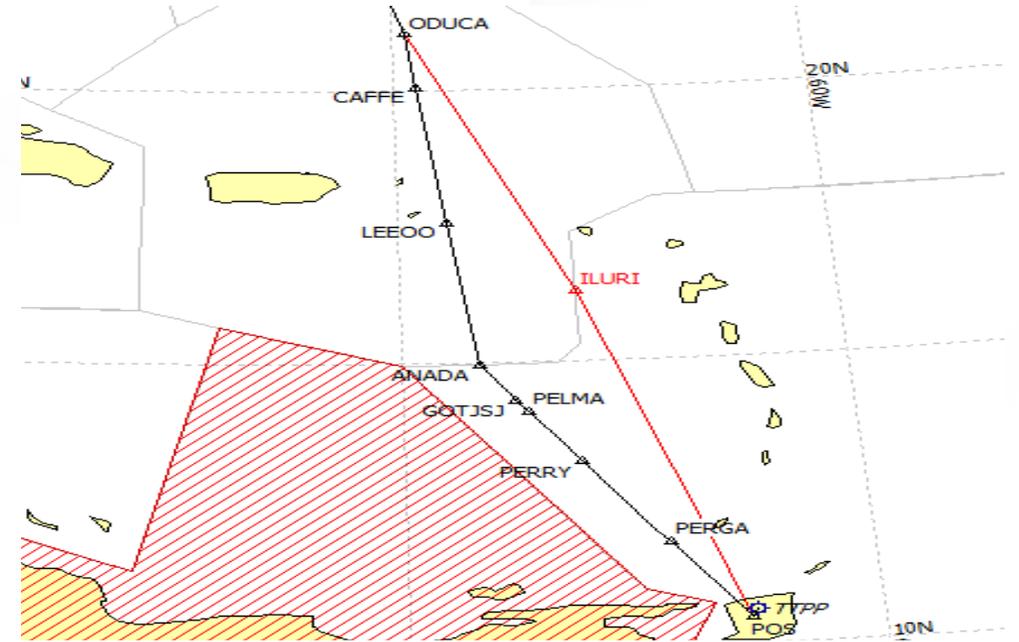
PROJECTED PATH IN YOUR AIRSPACE	PROJECTED IMPACT AND DURATION
<p>HURRICANE ISAAC - LOCATED: 1038N06059W MOVING: WEST NORTH WEST AT 09 MPH</p>	<p>AIRPORTS – TTTP IMPACT: HIGH STATUS: CLOSED PROJECTED OPENING: MAR 27/1600 NOTAMS A1369/21 NOTAMR A1344/21</p> <p>AIRPORT – TTPC IMPACT: HIGH STATUS: CLOSED PROJECTED OPENING: MAR 26/1900 NOTAMS A1370/21 NOTAMR A1345/21</p>

CADENA quarterly operational contingency training exercise

CADENA End to End Routes



GND DCT ZPATA DCT YIYYO –
14NM reduction/2 minutes of savings
B777-200ER – 400LBS
B737-800 – 200LBS



GND DCT ILURI DCT ODUCA –
17NM reduction/2 minutes of savings
B777-200ER -500LBS savings
B737-800 – 200LBS savings

CANSO – IATA Free Route Airspace System (CIFRAS) project

CANSO and IATA agreed on unifying the CANSO CADENA Optimised End to End Routes initiative with IATA's Direct routing implementation for the LAM-CAR region project. The objective of both projects concentrate on the optimisation of routes. By merging the projects, the duplication of efforts will be eliminated, and we will achieve a common goal with more significant results.

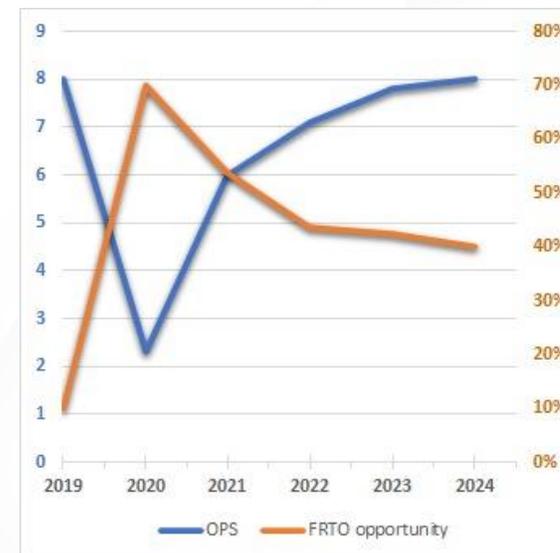
CIFRAS will follow the PASA Optimised End to End route process and include IATA's direct routing data into the FIR capability matrix chart. The Atlanta – Lima – Atlanta route will be the first of three pilot routes planned for the project.

The graph above, indicates the accumulative savings between 2021 to 2024 of only 40 of 1270 city pairs,



Potential benefits 2021-2024

- +68,500,000 LB in fuel saved
- +2'000,000 NM saved
- +4300 Flight hours saved
- +98'000,000 CO₂ Kg saved



PASA E2E Route Opt Tests Completed

May 2021: KATL ↔ SPJC

DAL150	ETE	Burn(lbs)	Distance
Baseline	6:18	83900	2858
w- DCTs	6:16	83300	2855
Diff	0:02	600	3
Cost saving/yr		\$92,281/yr	
CO2 saving/yr		222,824kg/yr	
DAL151	ETE	Burn(lbs)	Distance
Baseline	6:35	87017	2916
w- DCTs	6:31	84445	2882
Diff	0:04	2572	34
Cost saving/yr		\$276,669/yr	
CO2 saving/yr		955,172kg/yr	

June 2021: KATL ↔ SBGR

DAL104	ETE	Burn(lbs)	Distance
Baseline	09:23	124,306	4,243
w- DCTs	09:20	123,707	4,223
Difference	00:03	599	20
Cost saving/yr		\$174,285/yr	
CO2 saving/yr		311,434kg/yr	
DAL105	ETE	Burn(lbs)	Distance
Baseline	09:05	121,446	4,197
w- DCTs	09:03	120,940	4,164
Difference	00:03	506	33
Cost saving/yr		\$127,505/yr	
CO2 saving/yr		263,081kg/yr	

The 3rd PASA E2E Route Opt Pilot Test Savings

July 2021: KMIA↔ TTPP

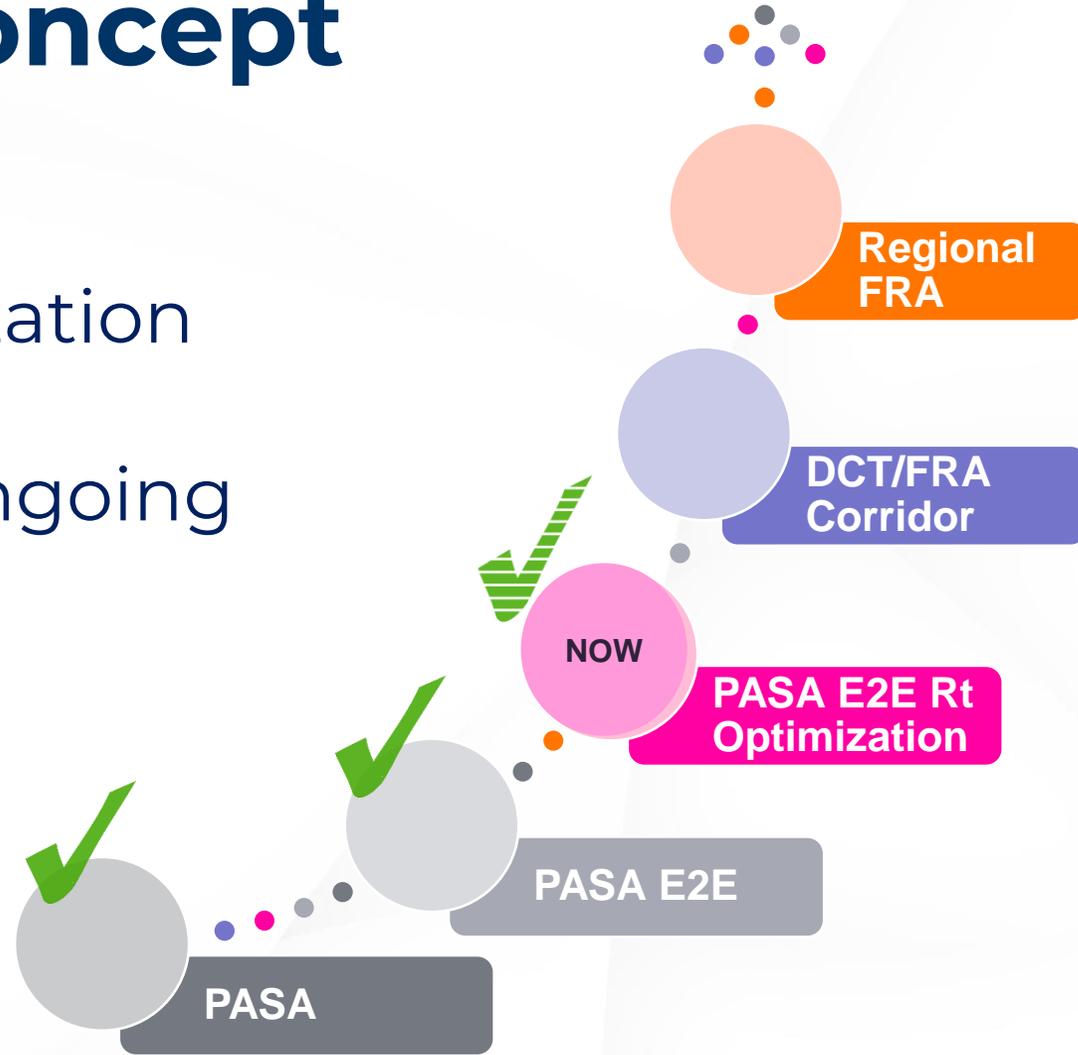
BWA483	ETE	Burn(lbs)	Distance
Baseline	3:31	21210	1478
w- DCTs	3:26	* N/A	1479
Diff	0:05	N/A	-1
Cost saving/yr	\$182,000/yr		
CO2 saving/yr	Unable to calculate		
	* Ground Stop at KMIA		
BWA484	ETE	Burn(lbs)	Distance
Baseline	3:28	21252	1498
w- DCTs	3:25	20860	1496
Diff	0:03	392	2
Cost saving/yr	\$151,580/yr		
CO2 saving/yr	204,522kg/yr		

BWA483 experienced Ground Stop at KMIA and was unable to obtain the fuel saving data by flying a desired route with Direct Routes.

However, the test result was satisfactory for Caribbean Airline and decided to move on to the 90-Day trial.

CIFRAS Implementation Concept

- PASA E2E Route Optimization Phase
- Three 90-day trials are ongoing
 - KATL-SPJC
 - KATL-SBGR
 - KMIA-TTPP



More city-pair pilot trials are planned

Network Failure Situation

July 21-22, 2021: The Caribbean region experienced an AFTN outage and an Internet outage. Airlines were unable to file FPLs with the respective ANSP.

- Solution: (A) Use phone (traditional) (B) Email (C) ANSP to ANSP support (D) Innovative use of the CADENA OIS Chat capability.

DATE	NETWORK FAILURE	TIME UTC
JULY 21	ANSP IMPLEMENTS 10 LINES, EMAIL, FREQUENCY AND CADENA OIS CHAT ANSP SOFTWARE TO IMPROVE FLIGHT PLAN COORDINATION	14:00
JULY 21	USE A DIFFERENT WAY TO CONNECT (SALT LAKE/ATLANTA) SERVER – ANSP - ANSP	20:00
JULY 22	STILL IN USE SEVERAL LINES, FREQUENCY, EMAIL AND CADENA OIS CHAT-ANSP SOFTWARE	14:00

An innovative use of the CADENA OIS

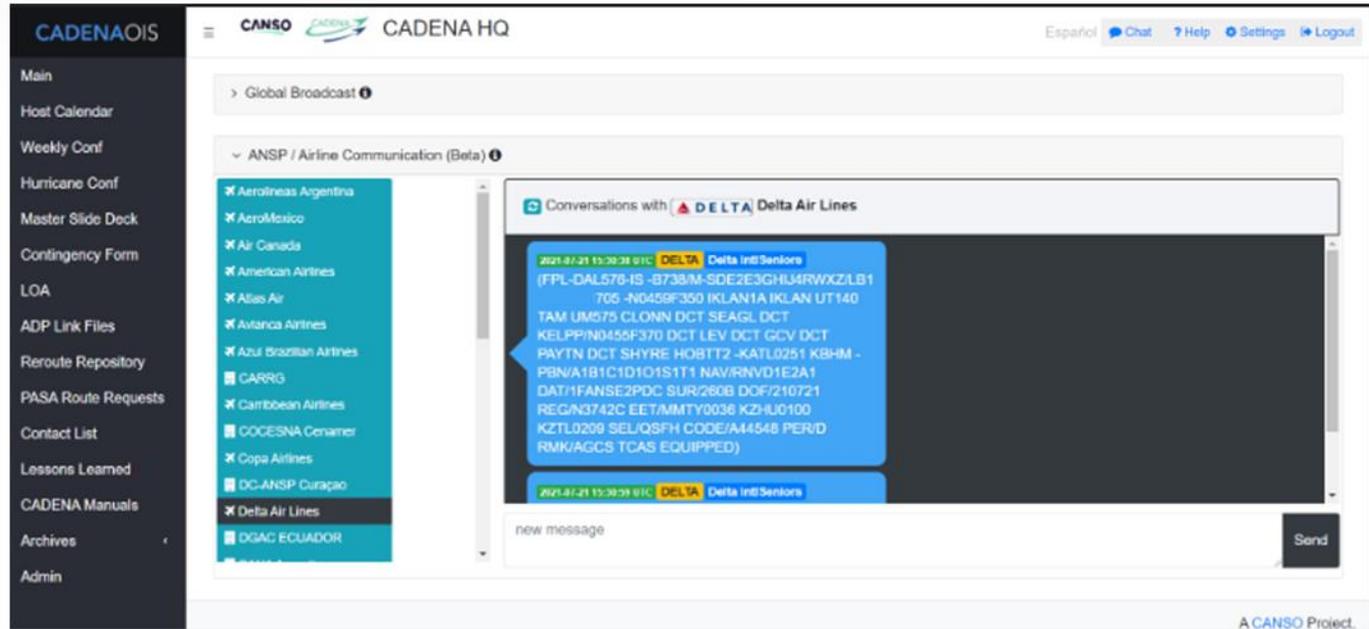


The screenshot displays the CADENA OIS web interface. On the left is a dark sidebar with navigation links: Main, Host Calendar, Weekly Conf, Hurricane Conf, Master Slide Deck, Contingency Form, LOA, ADP Link Files, Reroute Repository, PASA Route Requests, Contact List, Lessons Learned, CADENA Manuals, Archives, and Admin. The main content area has a header with the CAN SO and CADENA logos, 'CADENA HQ', and utility links for 'Español', 'Chat', 'Help', 'Settings', and 'Logout'. Below the header, there is a 'Global Broadcast' section with two messages:

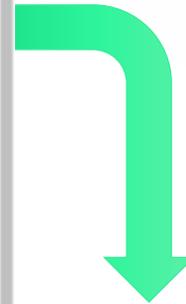
- Message 1:** From CAN SO (2021-07-21 17:21:31 UTC) to CADENA HQ (Joe Hof). Text: "Good afternoon to all and internet are out of service. We discovered that is receiving your Chat message via email push notification. They cannot respond to your Chat message, but they are receiving the flight plans. Go for it ! Joe"
- Message 2:** From UNITED (2021-07-21 17:22:34 UTC) to UNITED (gen schnee). Text: "Thank you Joe. We have the chat room open in case any request comes in."

Below the messages is a text input field containing "New global broadcast message" and a blue "Send" button. At the bottom, there is an 'ANSP / Airline Communication (Beta)' section with a list of airlines: Aerolíneas Argentina, AeroMexico, Air Canada, and American Airlines. A preview of a conversation with Volaris is visible, showing a message from 'volaris Volaris' with a timestamp of 2021-07-21 17:13:09 UTC.

An innovative use of the CADENA OIS



CADENA OIS
Chat between
an airline and
ANSP



Manual Entry



Avoided unnecessary flight departure delay. Potentially saved missed connections and associated costs for airlines.

ATM/Space operations CDM

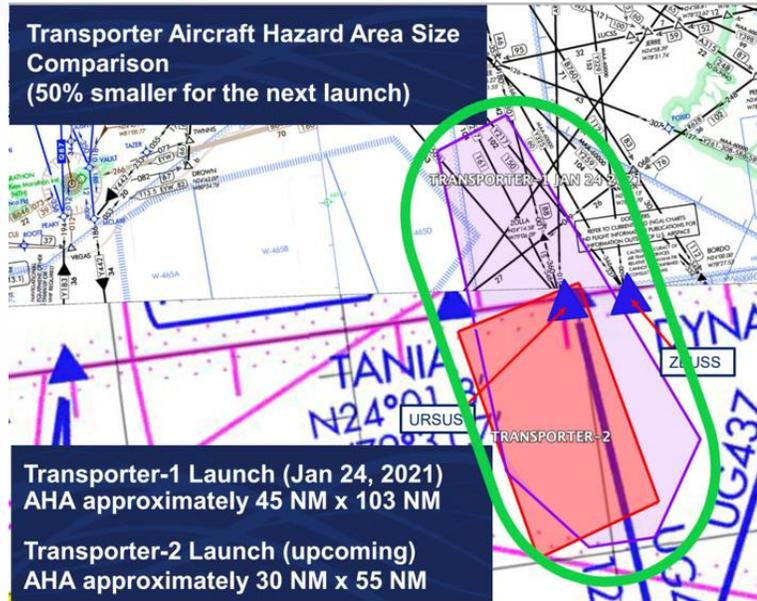


Figure A. Transporter Launch Aircraft Hazard Area (AHA)

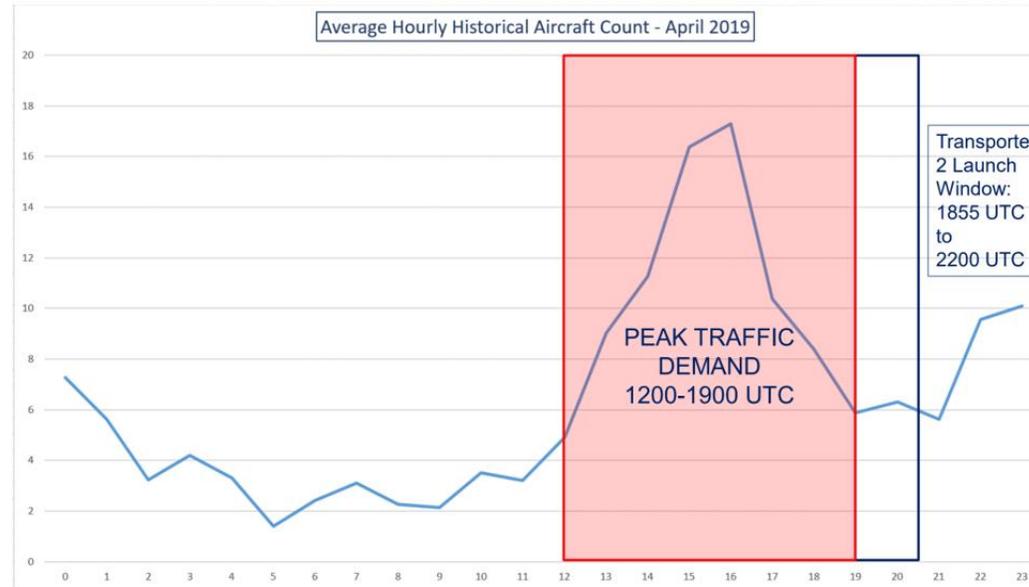


Figure B. Historical Peak Traffic 2019

The ATM/Space operations Collaboration Decision Making (CDM) teleconferences reduced the SpaceX polar launch aircraft hazard area (AHA) and active times for Transporter 2. The improvements with relation Transporter 1 mission included a new hazard area, 50% smaller, allowing critical airways usage to the east of the hazard area. The active times were also rescheduled to after the peak traffic hours of 1500-1900 UTC, mitigating impacts to traffic flow.

CADENA Benefits - Observed by IATA

- ATFM coordination has moved from single ANSP perspective to a regional perspective allowing improved coordination.
- CADENA initiative utilizes CDM, allowing the entire aviation community to participate and provide input to the strategic planning. This provides operators a forum to inform of deviation in the number of operations for planning purposes.
- Reduction in surprise to operators allowing for improved operational performance.
- Early detection of constraints and identification of real alternatives routes and trajectories.
- Awareness of special events including VIP movements and expected impact to the day's operations.

REGIONAL FOCUS

CADENA Operations Planning Web Conference

THURSDAY
1400 UTC

ANSP Information Shared on the Web Conference

- Staffing situation
- Equipment outages
- Terminal weather conditions
- Terminal constraints
- Route closures
- Space launch / recovery information
- Anticipated traffic management measures
- Anticipated air traffic demand

The CADENA Operational Plan

- Establishes the process, structure, and responsibilities for developing, managing, and implementing a pre-tactical plan for air traffic operations in the participating CADENA FIRs
- The Regional Operations Plan (ROP) is a collaboratively developed plan derived by the CADENA team and associated stakeholders
- The ROP is contained on the CADENA Operational Information System (OIS)

ANSPs ATFM DAILY PLAN



canso  Information Regional TMM ⁰ Active Reroutes ⁰ Delays ⁰ Advisories ⁵ Español



Regional Operations Plan

DGAC ECUADOR :28/Jun/2021 11:57

Anticipated Demand Information MEDIUM

TMM Planned NONE

Urgent Advisory

Weather SEGU 281040Z 2812/2912 22012KT 9999 FEW010 BKN023 BKN100 BECMG 2814/2816 SCT026 SCT100 BKN100 BECMG 2818/2820 14004KT BECMG 2902/2904 21012KT FEW010 BKN023 BKN100 TX30/2820Z TN22/2910Z

SEQM 281040Z 2812/2912 VRB03KT 9999 FEW030 BKN090 BECMG 2817/2819 01012KT BECMG 2822/2824 01004KT BKN026 BKN080 BECMG 2908/2910 3000 BCFG FEW005 BKN016 TX23/2819Z TN11/2911Z

SEMT 281040Z 2812/2912 18004KT 9999 OVC020 BECMG 2816/2818 30010KT SCT023 BECMG 2821/2823 22008KT BKN020 TX29/2820Z TN22/2910Z

SELT 281040Z 2812/2912 VRB03KT 9999 SCT013 SCT026 BKN100 BECMG 2815/2817 36010KT SCT030 SCT100 BECMG 2820/2822 VRB03KT BKN026 BKN100 TX16/2819Z TN04/2911Z

Volcanic Ash NONE

Constraints A0819/21 NOTAMR A0174/21
Q)SEFG/QXXXX/IV/NBO/E/000/999/0137S08336W999
A)SEFG B)2104291956 C)2107292000 EST
E)ALL INTL AND NTL FLIGHTS SHALL UNDERGO STRICT MANDATORY PROTOCOLS UNDER THE SUPERVISION OF MSP OF ECUADOR

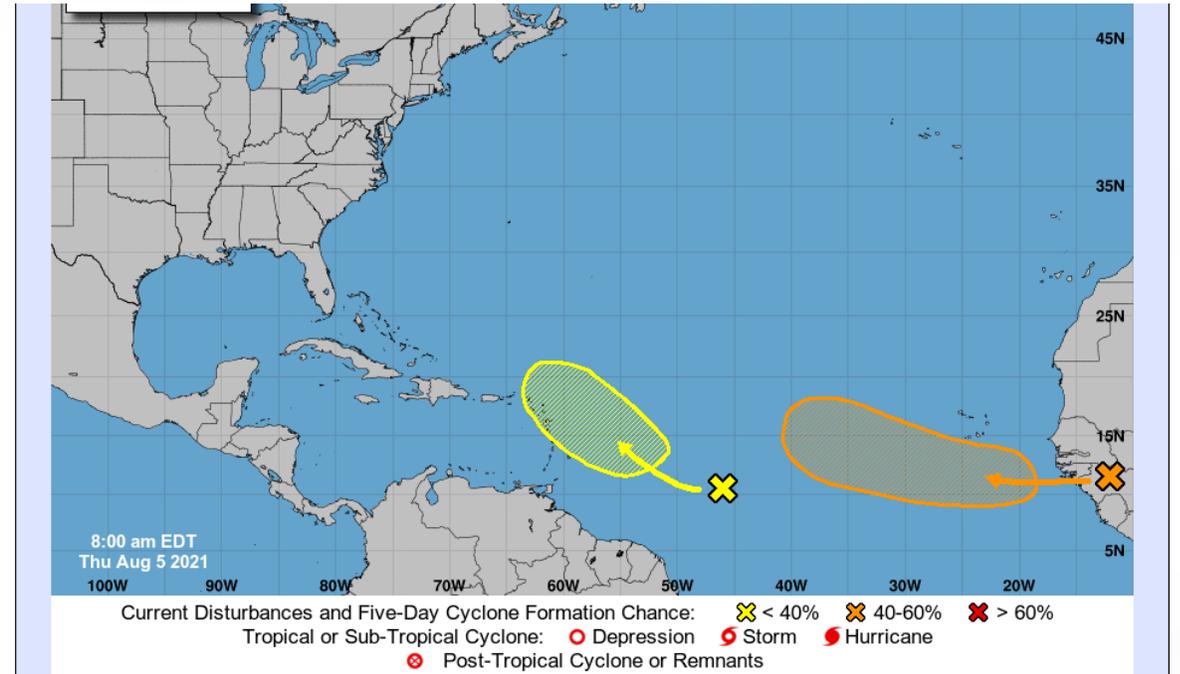
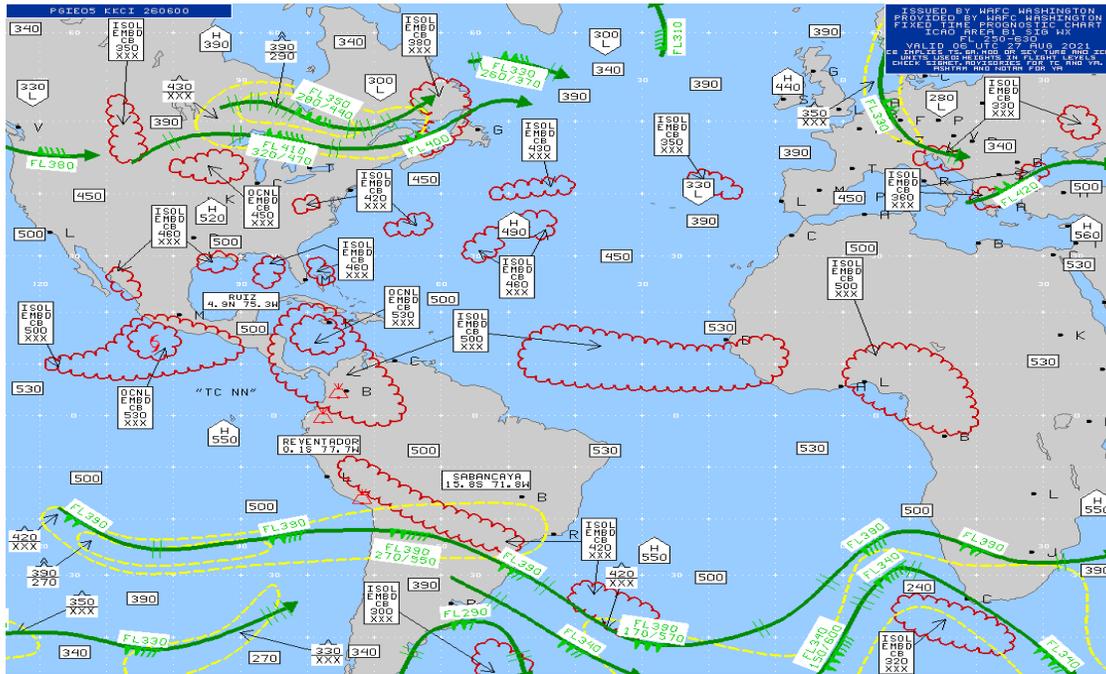
Special Events NONE

Equipment Outages A1685/21 NOTAMN

THE NEXT CADENA PLANNING WEB CONFERENCE WILL BE HELD ON THURSDAY, JULY 1, 2021 AT 1400 UTC 29/Jun/2021 00:22:01

CADENA

WEATHER OVERVIEW



CADENA

EANA
NAVEGACIÓN
AÉREA
ARGENTINA



EANA Argentina – August 26th, 2021

STAFFING	SIGNIFICANT TERMINAL ENROUTE WEATHER	ANTICIPATED DEMAND
<p>ADEQUATE STAFF (FOLLOWING HEALTH AND GOVERNMENT ADVICES)</p>	<p>THU:</p> <ul style="list-style-type: none"> ▪ <i>MTW</i> advisory in the northwest. ▪ <i>TURB</i> advisory for north, centre and south areas. ▪ <i>ICE</i> advisory and <i>RASN</i> in the south, on the Patagonia region. ▪ <i>FG</i> in the northeast part of the country. ▪ <i>SHRA</i> in the centre area. <p>SUN: <i>RASN</i> in the south</p> <p>FRI/SAT/MON: NOSIG</p>	<p>LOW THE WHOLE WEEKEND</p>



SOURCE: [National Weather Service \(NWS\)](#)

EANA Argentina – August 26th, 2021

<ul style="list-style-type: none">✓ EQUIPMENT OUTAGES✓ SIGNIFICANT NOTAMS✓ CONSTRAINTS✓ SPECIAL EVENTS	PLANNED TMMs
<p>SAEZ:</p> <ul style="list-style-type: none">• RWY 17/35 CLSD WIP MAINT 26 1300-2100 (NOTAM A4442/2021)• RWY 11/29 CLSD WIP MAINT 27 AND 28 1640-1940 (NOTAM A4441/2021) <p>SABE:</p> <ul style="list-style-type: none">• RWY 13/31 CLSD WIP MAINT 31 0400-0700 (NOTAM A4005/2021)• RWY 13/31 CLSD WIP MAINT 02, 07, 09, 14, 16, 21, 23, 28 AND 30 0400-0700 (NOTAM A4359/2021)	NO PLANNED TMMs

EANA Argentina – August 26th, 2021

COVID – 19 Situation

FIR/TMA/ Airport	NOTAM No.
SAEF SACF SAMF SAVF SARR	NO CHANGES FROM LAST WEEK AIC A 26 / 2021 <i>(Uploaded on the CADENA OIS)</i>

CADENA



CENTRE SPATIAL GUYANAIS

Port spatial de l'Europe
Europe's Spaceport



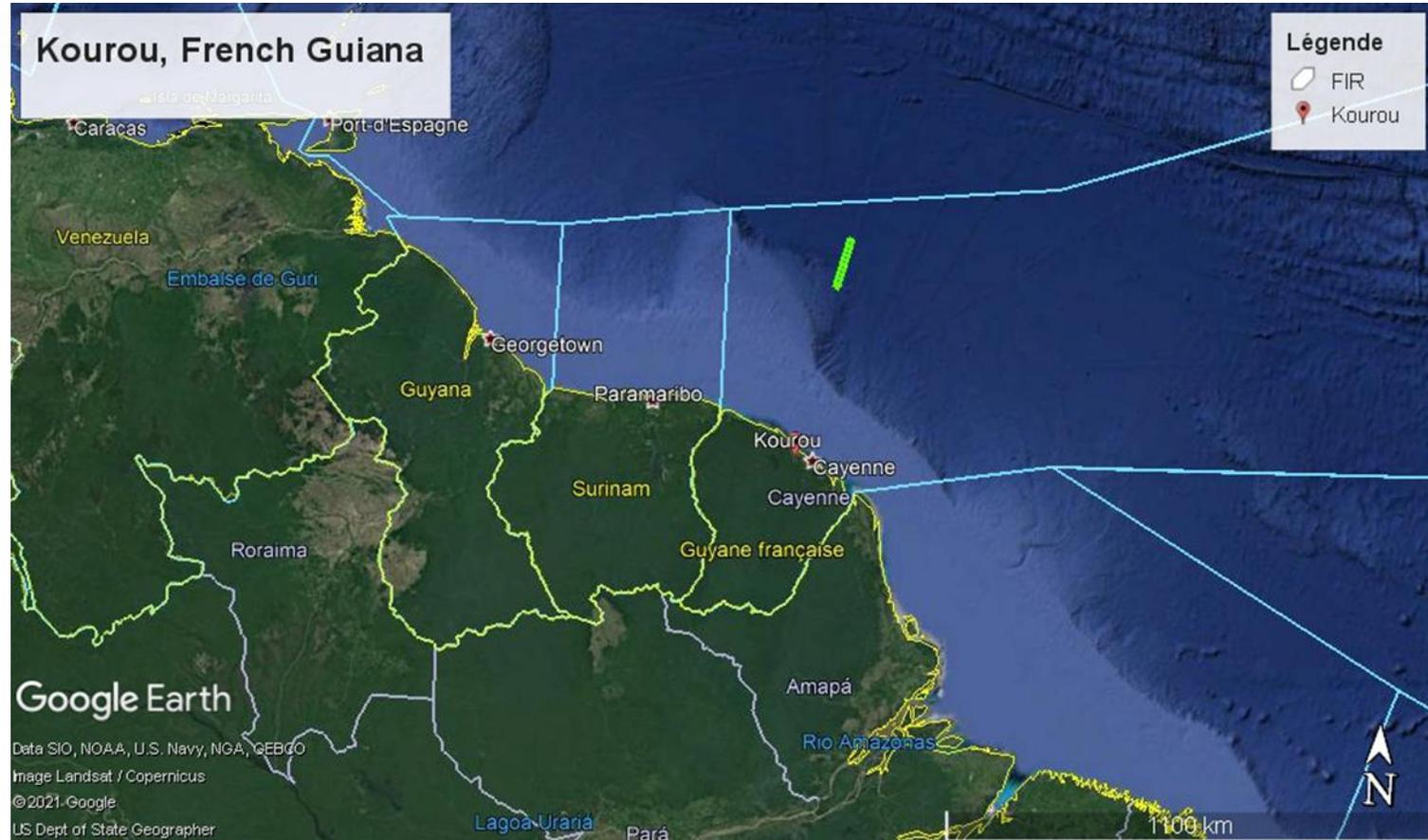
Department of Flight Safety

• 12/08/2021



• Upcoming Launch

- French Guiana Space Center (CSG), FRENCH GUIANA
 - VEGA VV19 Flight – Pléiades Neo 4 + rideshares
- August 17, 0147 UTC, Instantaneous Launch Window



Declaration notification

<i>Dangerous Zone</i>	<i>Zone Boundaries</i>	<i>Day Activation</i>	<i>Time Activation</i>	<i>Impacted FIR</i>
SOR 4 (FORBIDDEN)	REFERENCE	15 August 2021 - 09:00 UTC to 27 August 2021 - 02:18 UTC	Continuously	S000
SOD1 & SOD2	REFERENCE	17 August 2021 to 27 August 2021	Each day From 00:47 UTC to 02:18 UTC	S000
ZA/VV19 P80 Falling Area	0801N05205W 0854N05151W 0853N05146W 0800N05200W	17 August 2021 to 27 August 2021	Each day From 00:47 UTC to 02:18 UTC	S000
ZB/VV19 Z23 + Fairing Falling Area	1840N05252W 1840N05238W 1659N05237W 1659N05250W	17 August 2021 to 27 August 2021	Each day From 00:47 UTC to 02:18 UTC	TTZP KZWY
ZC/VV19 Z9 Falling Area	8012N16920E 8238N13128W 8207N13243W 7948N17126E	17 August 2021 to 27 August 2021	Each day From 01:56 UTC to 03:13 UTC	CZEG PAZA UHMM
ZD/VV19 AVUM Falling Area	3038S08727E 1457S09049E 1504S09131E 3046S08814E	17 August 2021 to 27 August 2021	Each day From 03:57 UTC to 05:14 UTC	YMMM

CADENA



 **THE PIARCO FIR** 



5

CADENA

Piarco – August 12, 2021

STAFFING	SIGNIFICANT TERMINAL / ENROUTE WEATHER	ANTICIPATED DEMAND
Adequate	<p data-bbox="1047 446 1467 558">TPP AND TCP <u>THURSDAY 12</u></p> <p data-bbox="631 572 1880 789">Fair to partly cloudy, hazy and, at times, breezy with occasional showers and the low chance of isolated thunderstorm mainly during the afternoon. Nighttime will be mostly fair despite the isolated shower.</p> <p data-bbox="1136 801 1378 843"><u>FRIDAY 13</u></p> <p data-bbox="665 858 1849 1015">Partly cloudy to cloudy; Occasional showers; Medium to high chance of thunderstorms during afternoon, evening and nighttime.</p> <p data-bbox="1080 1029 1434 1072"><u>SATURDAY 14</u></p> <p data-bbox="665 1086 1849 1186">Mostly cloudy; Rainy periods; Possible isolated morning thunderstorms.</p> <p data-bbox="1607 1200 1893 1236"><i>SOURCE: TTMS</i></p> <p data-bbox="657 1250 1867 1286">WEATHER UPDATES WILL BE POSTED DAILY ON THE CADENA OIS</p>	<ul data-bbox="1900 451 2201 558" style="list-style-type: none">• Low to Medium

CADENA

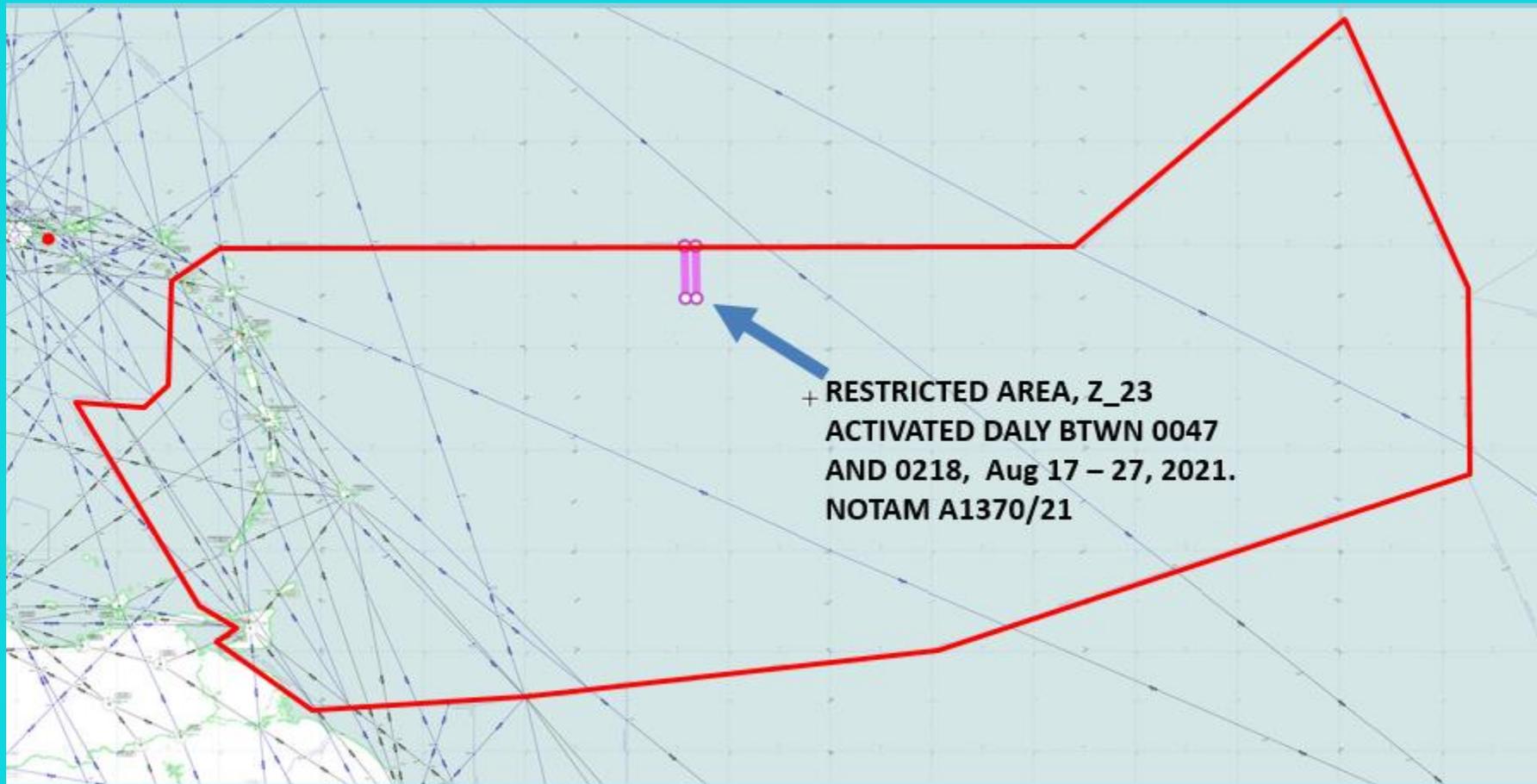
Piarco – August 12, 2021

<ul style="list-style-type: none">✓ EQUIPMENT OUTAGES✓ SIGNIFICANT NOTAMS✓ CONSTRAINTS✓ SPECIAL EVENTS	PLANNED TMMs
<p style="text-align: center;">TTZP</p> <p>NOTAM A1370/21 - TEMPORARY RESTRICTED AREA Z23 ACTIVATED DAILY BTWN 0047 – 0218 UTC, AUG 17 – 27, 2021, DUE TO FAIRING FALLING AREA OF VEGA LAUNCH VV19. AREA BOUNDED BY COORDINATES: 1800N05251W 1800N05238W 1659N05237W 1659N05250W 1800N05251W (Graphic on following Slide.)</p> <p style="text-align: center;">TVSC – NOTAM A1320 NDB "CAI" 302KHZ U/S)</p>	NONE

CADENA

Piarco – August 12, 2021

TEMPORARY RESTRICTED AREA Z23



COVID – 19 Update - Changes from last week in **Red** font

FIR/TMA/ Airport	NOTAM No.
TTZP	A1243/21, A1244/21
TGPY	A1293/21
TLPC	A1136/21, A1072/21, A1059/21
TLPL	A1135/21, A1104/21, A1058/21, A1045/21
TFFF	A1360/21
TFFR	A1351/21
TVSA	A1326/21, A1247/21, A1246/21
TAPA	A1325/21
TKPK	A1214/21, A1035/21, A1026/21, A1025/21
TKPN	A1024/21

ATO Space Operations Office



CADENA



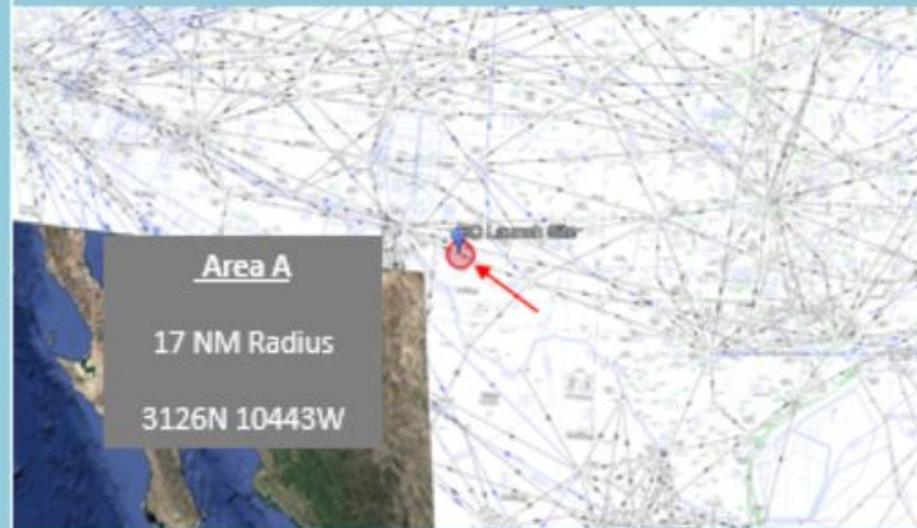
UPCOMING LAUNCH EVENT

LAUNCH SITE – Van Horn, TX

Van Horn, Texas

Blue Origin, NS-17
AUGUST 26, 1230 - 2030 UTC

Backup Dates: AUGUST 27-29, 1230 – 2030 UTC



CADENA



UPCOMING EVENT

LAUNCH SITE *Pacific Spaceport Complex Alaska (PSCA), Kodiak Island, Alaska.*

Pacific Spaceport Complex Alaska (PSCA), Kodiak Island, Alaska.

- 1. ASTRA P132**, Pacific Spaceport Complex Alaska (PSCA), August 27, 2100 to 0000 UTC.

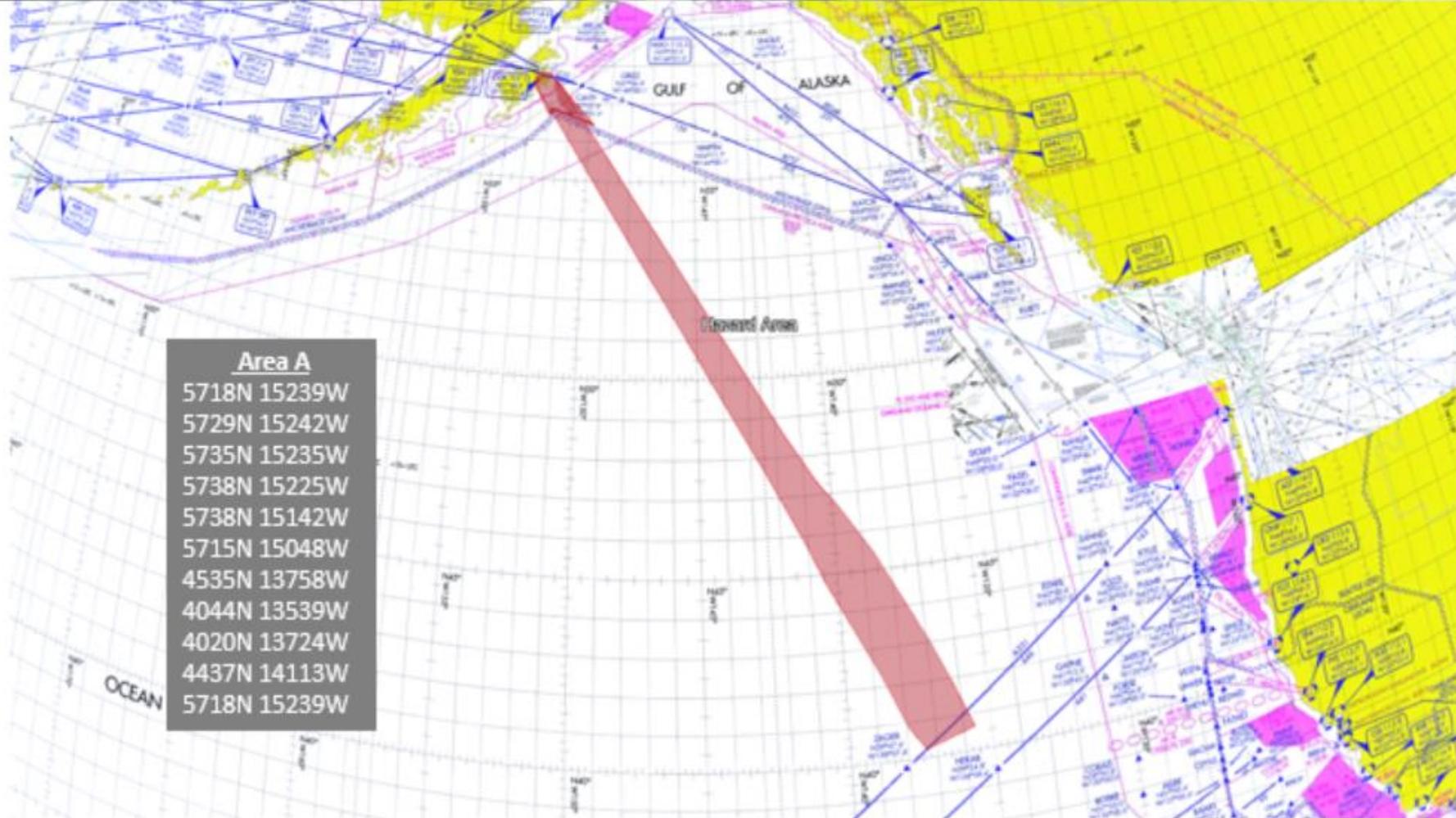
Back-up dates August 28th – September 3rd ,
September 7th – September 11th ,
2100 - 0000 UTC.





FAA Space Operations Office

David J Hurley Air Traffic Control Center



CADENA

Stakeholder comments / questions

Airlines
IATA
ALTA
ACI



CADENA

Any additional comments or questions?





QUESTIONS AND ANSWERS



THANK YOU

CANSO

SHAPING OUR FUTURE SKIES