

Next Steps Toward the Regional Implementation of Globally Harmonized ATFM

4-6 November 2014, Cancún, México

ATFM: GETTING STARTED



**EVALUATION AND
ADJUSTMENTS**

CHAMPION

CDM PROCESS

**AIRPORT
CAPACITY**

**SECTOR
CAPACITY**

**SITUATIONAL
AWARENESS**

ATFM TOOLS

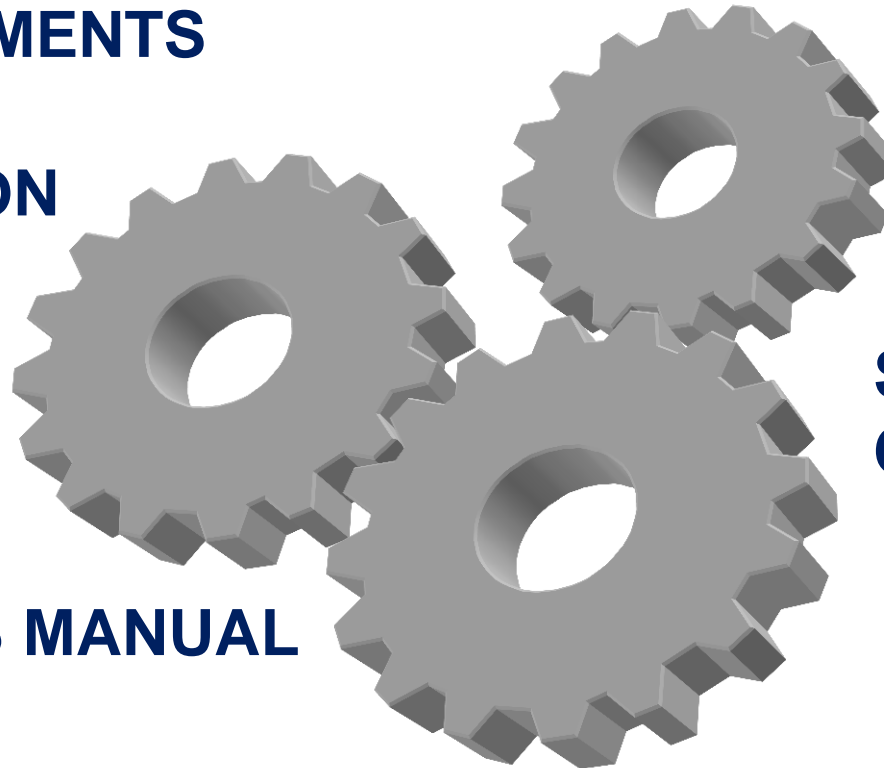
**ATFM
COMMUNICATION**

**ATFM
STRUCTURE**

**ATFM
PROCEDURES MANUAL**

ATFM TRAINING

IMPLEMENTATION



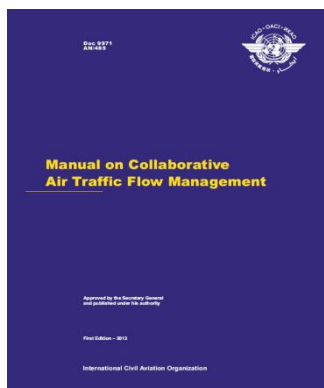
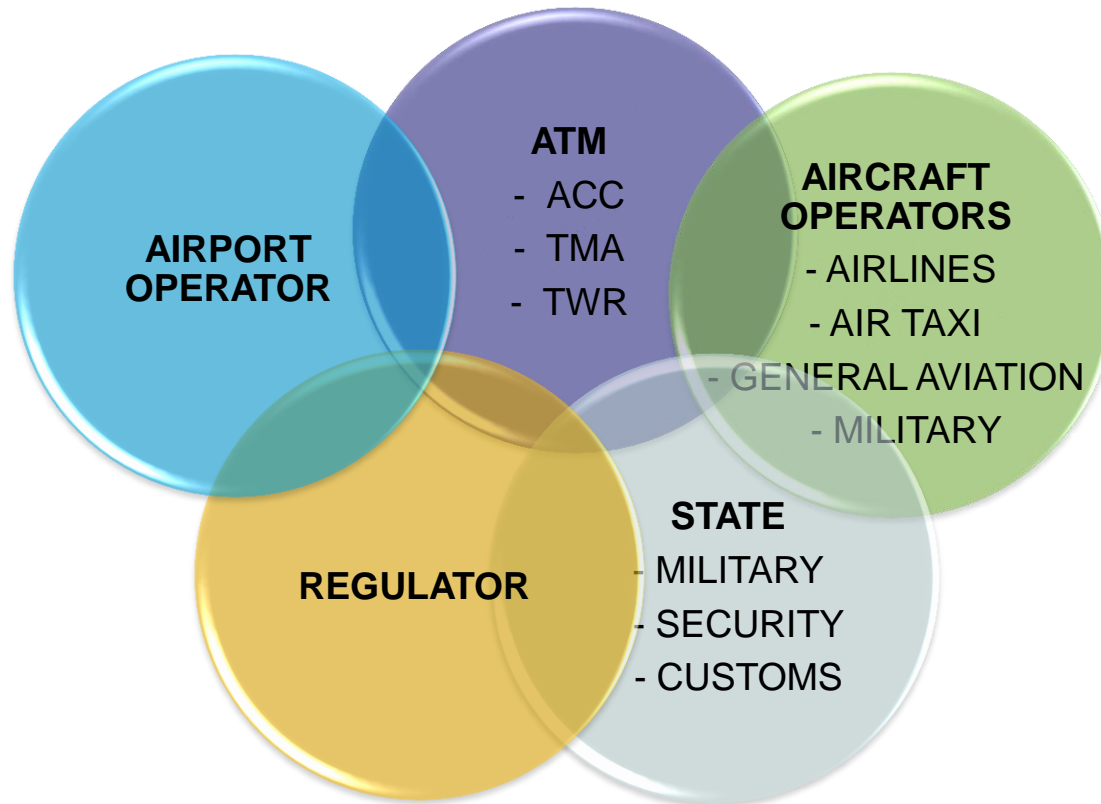
Start where you are !

- Identify your ATFM project champion and leader
- Establish the objectives, project management plan, and oversight of your ATFM process

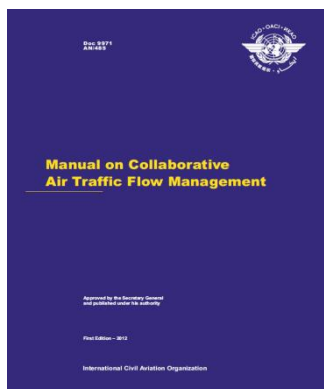
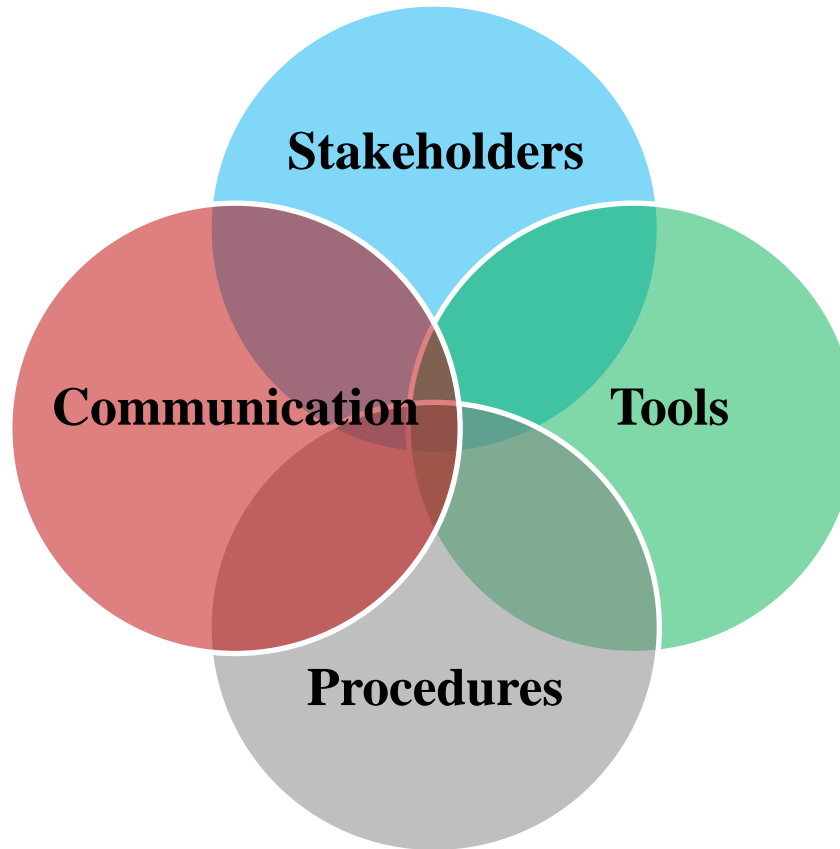




- Identify and brief the key stakeholders



- Then define the operating process: CDM



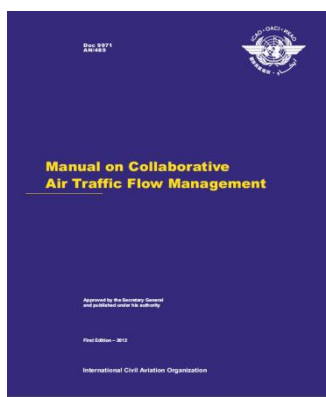
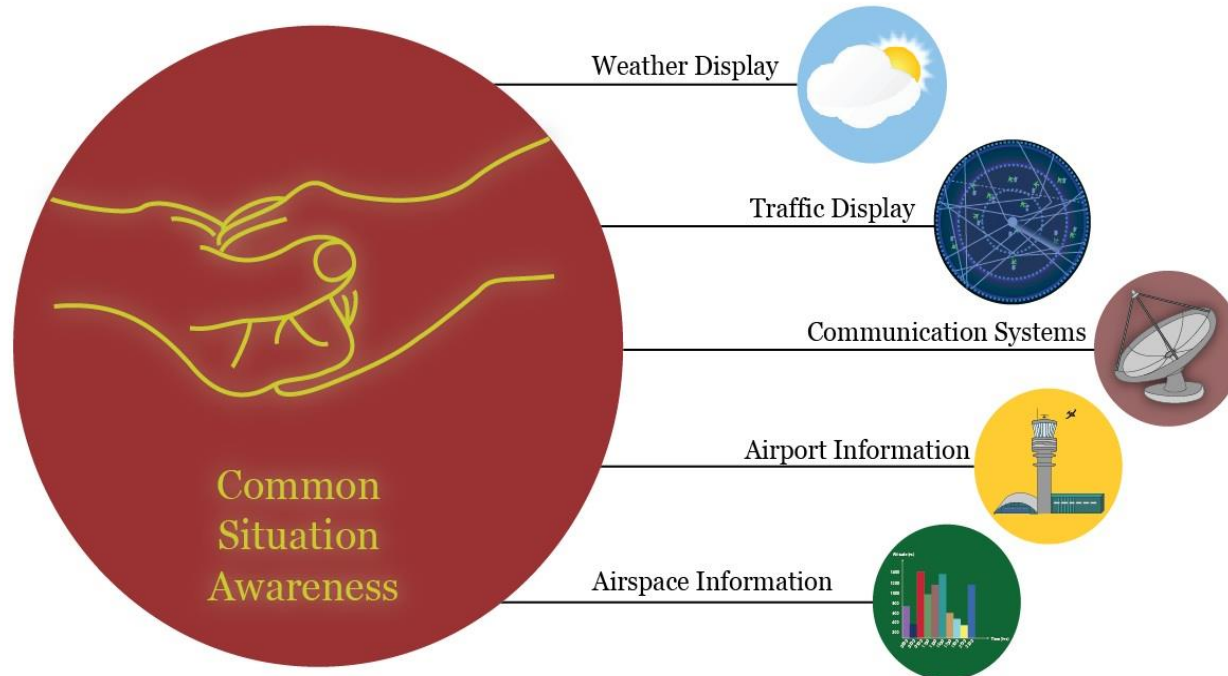
- Develop ... or adopt ... and apply a methodology to determine:
 - Airport capacity
 - Arrival rate
 - Departure rate
 - Sector capacity
 - Sector throughput



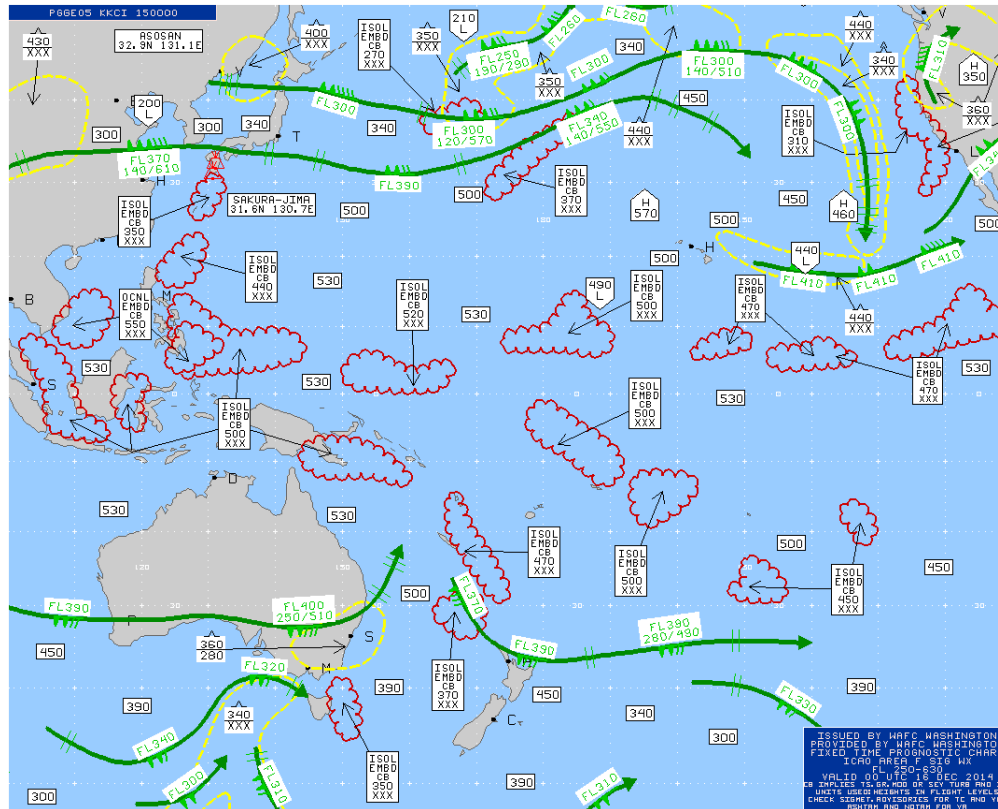
- **If you can measure it, you can manage it**

Then define the elements of:

- Common Situation Awareness

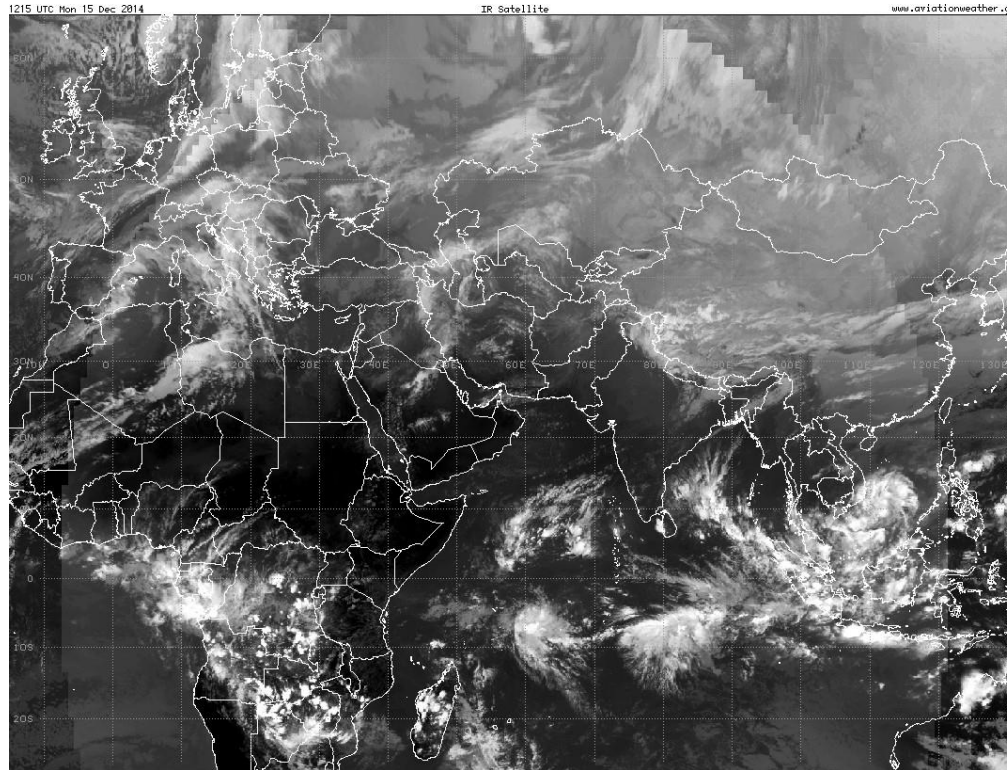


Weather information



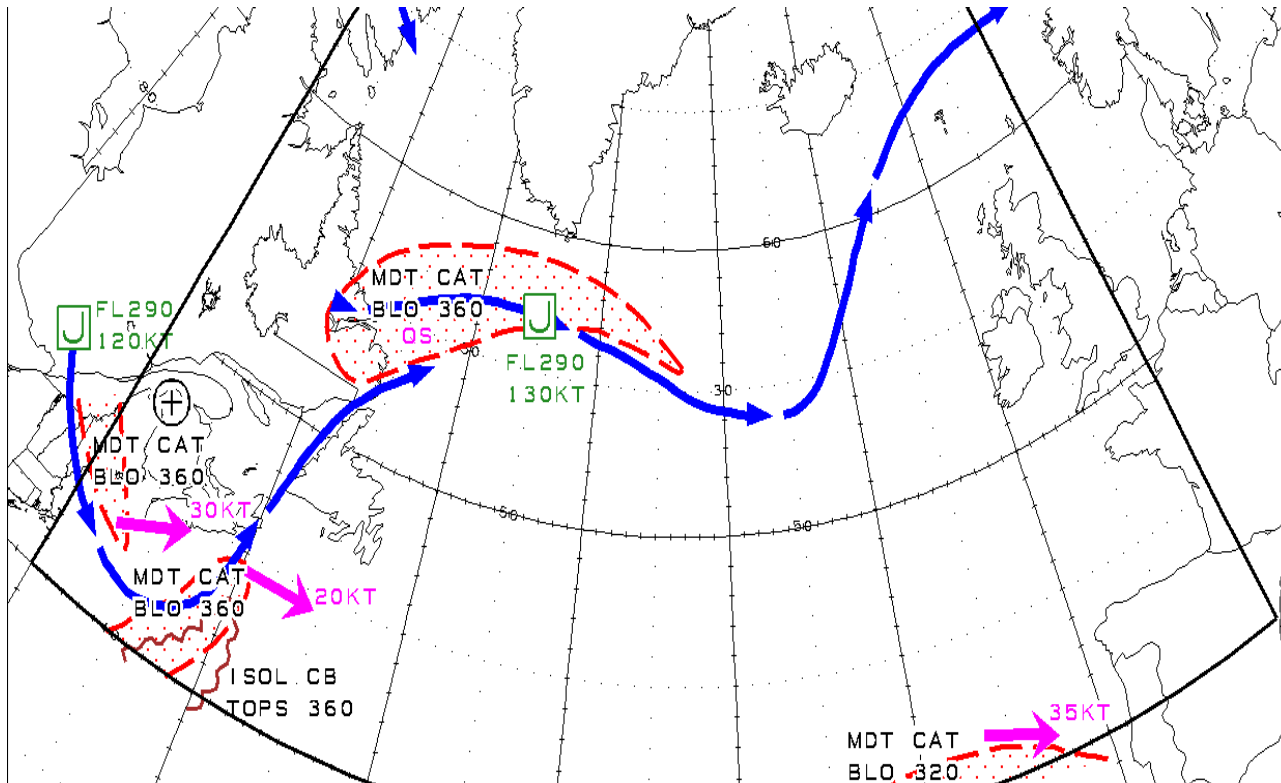
www.aviationweather.gov/products/swh/

Weather information



www.aviationweather.gov/obs/sat/intl/

Weather information



North Atlantic Track weather information

Weather information

Precipitations & Lightning

Surface pressure

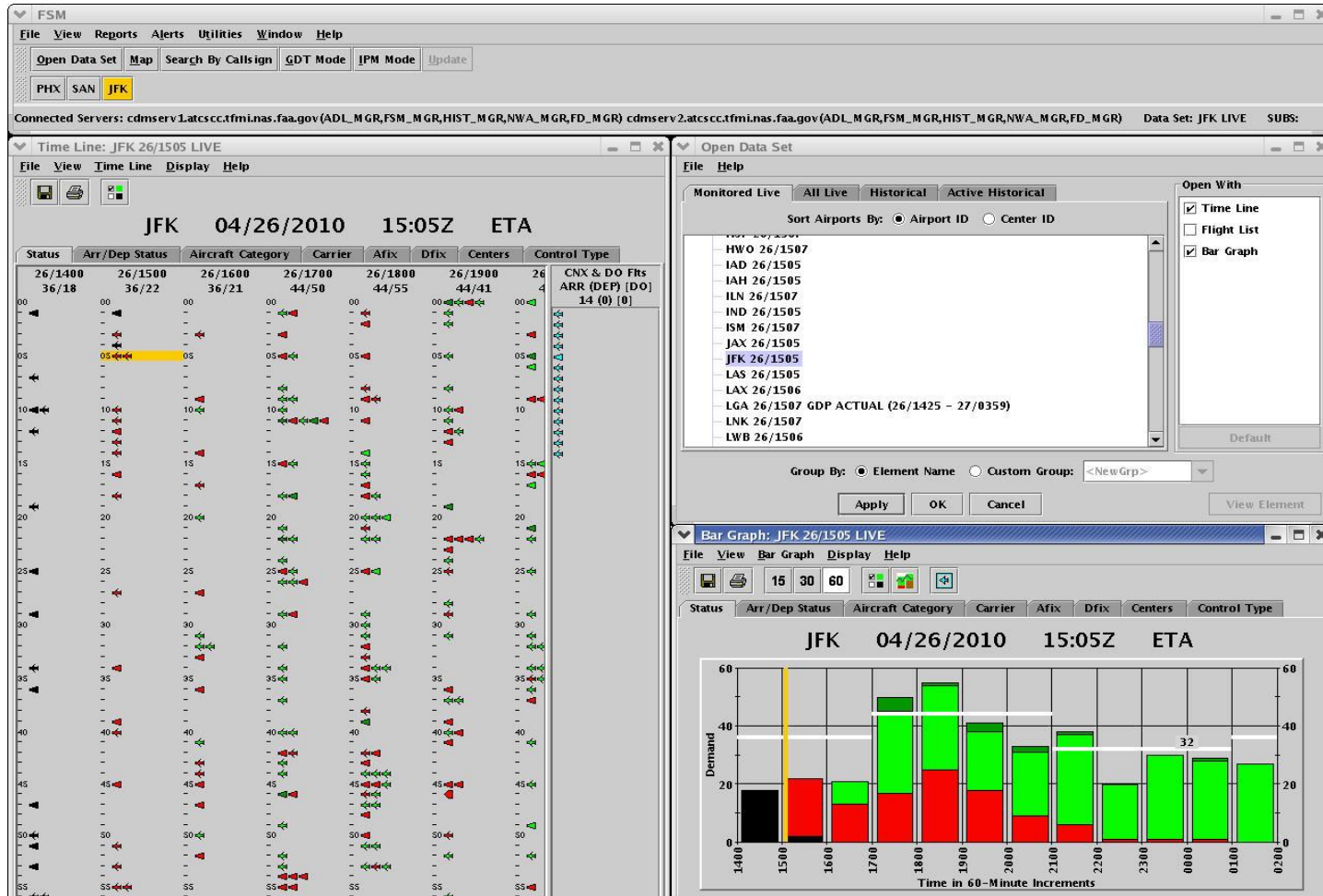
Daily Eurocontrol Network Weather Assessment

Date: 08 / 10 / 2014 Updated: 07:10 @ 1430 utc Ref: AOLO

General Outlook	En-Route	Aerodrome
<p>High Pressure system over West Russia and a weak HP over Med / North African continent.</p>	<p>SEVERE WX ALERTS.</p> <p>CB activity - Severe Convection</p> <p>ISOL CB's Bay of Biscay</p>	<p>EBBR 09-12 BKN007</p> <p>EHAM 04-08 BKN006</p> <p>LFPG 06-10 BKN004</p> <p>LSGG 03-08 300M FG</p> <p>ESSA 00-09 BKN005</p>
<p>Low Pressure system West of Eire and another Low east of Denmark with various fronts producing Low cloud base with -RA / DZ affecting Benelux and Northern France/Germany .</p>		

Network Management weather information

Traffic demand information (USA)



Traffic demand information (Mexico)



PROSAT

143 Estimados

miércoles, 31 - julio - 2013 / 20:48:14

FLY	ORIGEN	DESTINO	ESTADO	PROSAT
SL12887	MMBT	CLAS	2228	
VU2780	MWJ	B787	2207	
VO1713	MWJ	A319	2206	
Q7738	MWBT	B737	2205	
SL12889	MWJ	L348	2205	

PROSAT

SIAAT



SIAAT

143 Estimados

miércoles, 31 - julio - 2013 / 20:48:14




FLY	ORIGEN	DESTINO	ESTADO	PROSAT
SL12887	MMBT	CLAS	2228	
VU2780	MWJ	B787	2207	
VO1713	MWJ	A319	2206	
Q7738	MWBT	B737	2205	
SL12889	MWJ	L348	2205	

Traffic demand information (Piarco)

Piarco ACC Traffic Outlook (TTZP)

Monday April 2nd, 2007

Status Bar

TIME (UTC)	0000 - 2130	2131 - 2330	2331 - 2359
STATUS			

Click on the link below to view Piarco's Traffic Outlook in EXCEL Format.

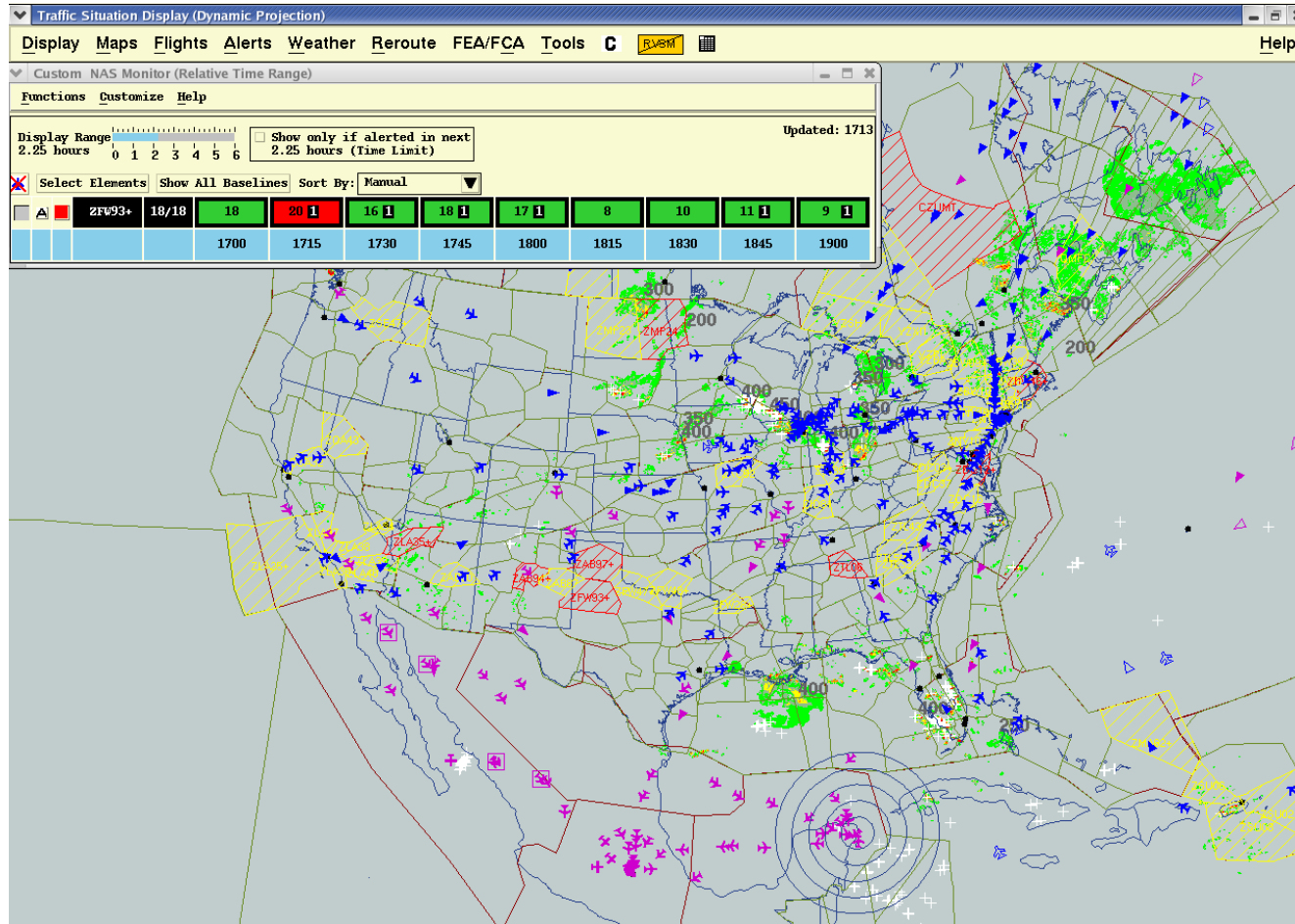
[TTZP](#)

Click on "Graphs" to view Piarco's Traffic Outlook in a chart Format.

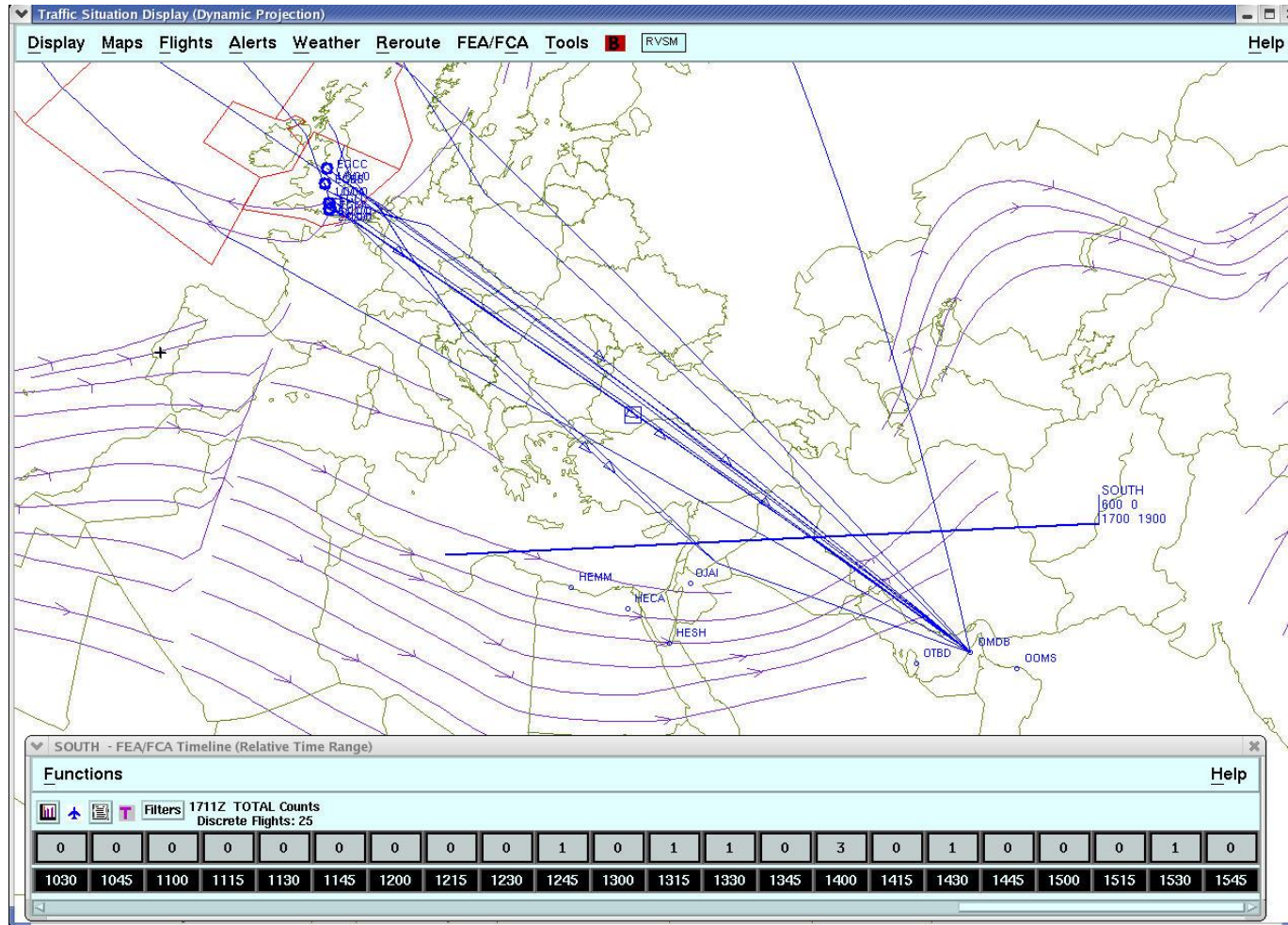
[Graphs](#)

[HOME](#)

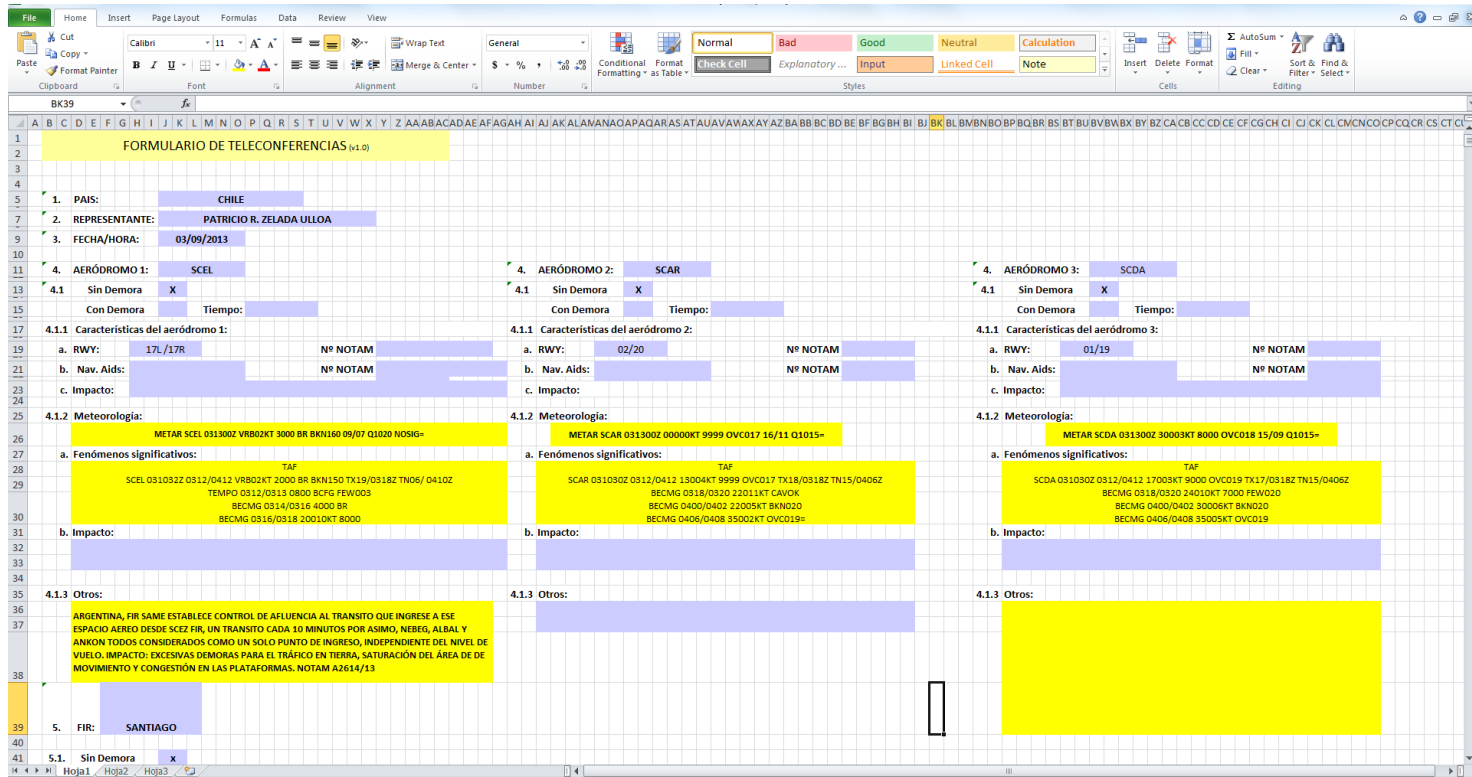
Traffic display information



Traffic display information



Communication



FORMULARIO DE TELECONFERENCIAS (v1.0)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41							
FORMULARIO DE TELECONFERENCIAS (v1.0)																																															
1.	PAIS:	CHILE																																													
2.	REPRESENTANTE:	PATRICIO R. ZELADA ULLOA																																													
3.	FECHA/HORA:	03/09/2013																																													
4.	AERÓDROMO 1:	SCEL													4.	AERÓDROMO 2:	SCAR													4.	AERÓDROMO 3:	SCDA															
4.1	Sin Demora	X													4.1	Sin Demora	X													4.1	Sin Demora	X															
	Con Demora															Con Demora															Con Demora																
	Tiempo:															Tiempo:															Tiempo:																
4.1.1	Características del aeródromo 1:													4.1.1	Características del aeródromo 2:													4.1.1	Características del aeródromo 3:																		
a.	RWY:	17L/17R													Nº NOTAM	a.	RWY:	02/20													Nº NOTAM	a.	RWY:	01/19													Nº NOTAM
b.	Nav. Aids:	Nº NOTAM													b.	Nav. Aids:	Nº NOTAM													b.	Nav. Aids:	Nº NOTAM															
c.	Impacto:														c.	Impacto:														c.	Impacto:																
4.1.2	Meteorología:													4.1.2	Meteorología:													4.1.2	Meteorología:																		
	METAR SCCL 031300Z VRB02KT 3000 BR BKN160 09/07 Q1020 NOSIG=														METAR SCAR 031300Z 00000KT 9999 OVC017 16/11 Q1015=														METAR SCDA 031300Z 30003KT 8000 OVC018 15/09 Q1015=																		
a.	Fenómenos significativos:													a.	Fenómenos significativos:													a.	Fenómenos significativos:																		
	SCCL 031032Z 0312/0412 VRB02KT 3000 BR BKN150 Tn19/0318Z TND6/ 0410Z TAF TEMPO 0312/0313 0800 BCFG FEW003 BECMG 0314/0316 4000 BR BECMG 0316/0318 2001KT 8000														SCAR 031030Z 0312/0412 13004KT 9999 OVC017 Tn18/0318Z TN15/0406Z TAF BECMG 0318/0320 2201KT CAVOK BECMG 0400/0402 22005KT BKN020 BECMG 0406/0408 35002KT OVC019=														SCDA 031030Z 0312/0412 17003KT 9000 OVC019 Tn17/0318Z TN15/0406Z TAF BECMG 0318/0320 24010KT 7000 FEW020 BECMG 0400/0402 30006KT BKN020 BECMG 0406/0408 35005KT OVC019																		
b.	Impacto:													b.	Impacto:													b.	Impacto:																		
4.1.3	Otros:													4.1.3	Otros:													4.1.3	Otros:																		
	ARGENTINA, FIR SAME ESTABLECE CONTROL DE AFLUENCIA AL TRANSITO QUE INGRESE A ESE ESPACIO AEREO DESDE SCEZ FIR, UN TRANSITO CADA 10 MINUTOS POR ASIMO, NEBEG, ALBAL Y ANKON TODOS CONSIDERADOS COMO UN SOLO PUNTO DE INGRESO, INDEPENDIENTE DEL NIVEL DE VUELO. IMPACTO: EXCESIVAS DEMORAS PARA EL TRÁFICO EN TIERRA, SATURACIÓN DEL ÁREA DE DE MOVIMIENTO Y CONGESTIÓN EN LAS PLATAFORMAS. NOTAM A2614/13																																														
5.	FIR:	SANTIAGO																																													
5.1.	Sin Demora	x																																													

Email exchange in the ICAO SAM Region

Communication

ATCSCC Advisory

ATCSCC ADVZY 065 DFW/ZFW 10/06/2014 DFW DIVERSION RECOVERY

RAW TEXT: ATCSCC ADVZY 065 DFW/ZFW DFW DIVERSION RECOVERY
THE ATCSCC HAS ACTIVATED THE DIVERSION RECOVERY TOOL
FOR DFW. CUSTOMERS SHOULD ENSURE THAT DVRSN IS INCLUDED
IN FLIGHT PLAN REMARKS OF DIVERTED AIRCRAFT.
NOTE THAT IF THERE IS A GROUND DELAY PROGRAM OR GROUND STOP
IN EFFECT FOR THE DESTINATION AIRPORT DIVERTED FLIGHTS ARE
NOT AUTOMATICALLY EXEMPT AND WILL STILL RECEIVE AN EDCT.
061305-061605

14/10/06 13:05 DCCOPS./nfs/lxstn34

Communication



Communication

ATCSCC Advisory

ATCSCC ADVZY 076 DCC 10/06/2014 US/MEXICO OUTLOOK_FYI

MESSAGE: VALID FOR 061330 THRU 071329

TERMINAL CONSTRAINTS:

MMX - NONE

MMSD - NONE

MMUN - NONE

ENROUTE CONSTRAINTS:

ZMZ - NONE

ZMO - NONE

ZMR - NONE

ZMC - NONE

TELCON PHONE NUMBER: (540) 359-3200 PIN 2444#

NEXT PLANNING TELCON 071330Z.

EFFECTIVE TIME: 061337 - 071329

SIGNATURE: 14/10/06 13:38

Communication

07/10/2014
19:43⁵²UTC

TARGET DATE: 07/10/2014

07/10/2014 **SET**

D (Tactical)

SEARCH

Username: guest

Resources

Post-Operations

Axis Management

South East Axis 2014 update

01/05/2014 - 01/11/2014

Network Operations Weather Assessment

Network Operations Weather Assessment objective

To support ANSPs and AOs in anticipating, identifying, monitoring and planning for potential severe weather events that may impact ATM capacity.

Daily Update (click here)

Enhanced Airport Event Information

The information published below shows data provided by the participating airport that has identified an event that may have an impact upon airport capacity. The information is displayed by EUROCONTROL on trial basis (trial details) for the purpose of raising awareness of potential impacting events and to support informed decision making and CDM between aviation partners.

AIRPORT LIST

NO EVENTS REPORTED

[Disclaimer](#)

Contingency

The status of the Network Manager operations is NORMAL.

NM ATFCM Contingency Plan Summer 2014

Valid 30th March 2014 - 25th October 2014

This document addresses the contingency procedure to be carried out in the event of a long term failure of Network Operations systems.

ANM

Valid On 07/10/2014

Last Released 07/10/2014 19:21

AIM

Description	Released on
NETWORK NEWS WEDNESDAY 08 OCTOBER 2014	07/10/2014 14:24
XCD NON-AVAILABILITY FCM MANDATORY YES	07/10/2014 19:26
TAXI TIME EDDH	07/10/2014 14:17
TAXI TIME EDDH	07/10/2014 12:56

Tactical

ATFCM Network Situation

Last update: 07/10/2014 19:42

Legend: < 5 MIN, < 30 MIN, < 45 MIN, >= 45 MIN

Static Map | **Static Map (IE7/8)**

ATFCM Network Situation Data

Last update 07/10/2014 19:35

Flights

Category	Count	Percentage
Total	28,729	
Landed	23,035	(80%)
Airborne	3,833	(13%)
Expected	2,855	(7%)

Delays (in minutes)

Metric	Value	Percentage
Cumulated	17,634.0	
Average/Flight	0.6	
En-route	7,038	(40%)
Airport	10,596	(60%)
>= 30 min	119	

Delay Causes

Reason	Delay	Delay (%)
Weather	5183	29%
Aerodrome Capacity	3712	21%
Airspace Management	3052	17%

Network Headline News

- 07/10/2014 **Tactical update 1830 UTC**
- 24/09/2014 **IFPS Users Manual replacement**
- 22/09/2014 **Ukraine situation - update 01/10 0600 UTC**
- 20/09/2014 **HLLL (Libya) FIR - update 25/09 0900 UTC**
- 04/09/2014 **Civil aviation overflying Belarus (update 19/08)**
- 19/08/2014 **Russia overflight permissions**

[more](#)

EVITA

For more information on the European Crisis Visualisation Interactive Tool for ATFCM (EVITA), please consult the [EVITA web page](#).

Network Events

Tuesday, 7 October 2014

Month | Day

Show only starting events

- Belgrade ACC change of AoR
01/09/2014 00:00 - 27/11/2014 23:00
- Bodo ACC (Norway)
01/09/2014 00:00 - 12/12/2014 23:00
- EDGG_PAPERLESS STRIP SYSTEM (PSS) WG 5
29/08/2014 00:00 - 12/10/2014 23:59
- EU_Presidency Italy
01/07/2014 00:00 - 31/12/2014 23:59
- Geneva ACC, Stripless CH (step 3)
15/09/2014 00:00 - 14/11/2014 23:00
- Langen PSS EBG05

Search | List

E-Helpdesk

To request access to the E-Helpdesk please fill in the NM service request form.

Flights

Access to Flights is restricted to NOP (Protected) Portal Users. For more information on this function consult the online help through the ? button on the right of the title. To read the instructions for subscription please visit the [NM](#)

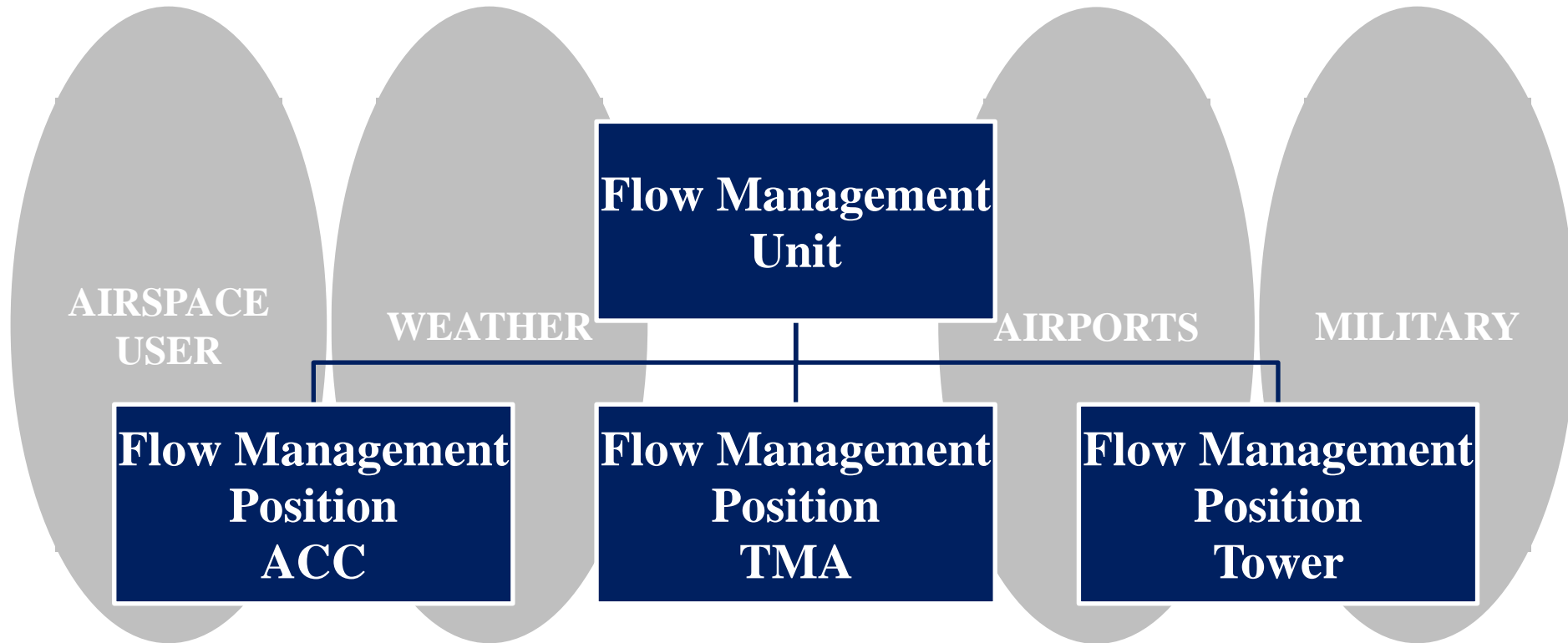
Communication



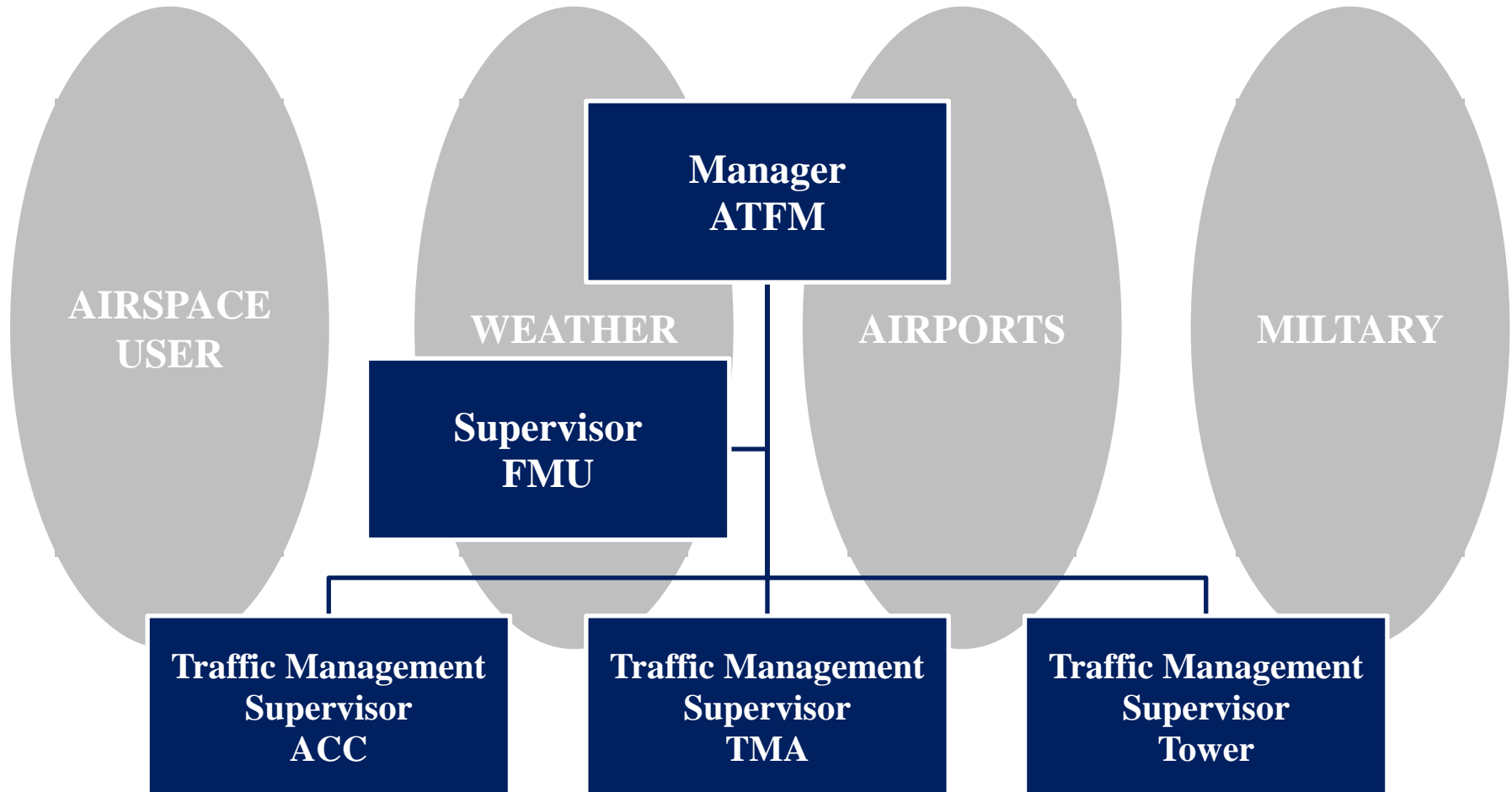
ATFM Structure

- Define the ATFM structure that will be established
 - Flow management unit (FMU)
 - Flow management positions (FMP)
- Identify the locations for these facilities

ATFM Structure



ATFM Staff



ATFM Facilities and Equipment

- Consider the facilities and equipment that will need to be procured for the implementation of ATFM



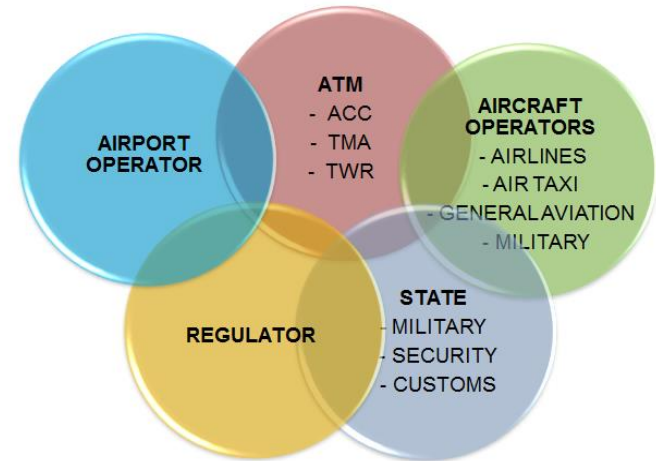
ATFM Personnel

- Identify the operational personnel and operational phone numbers that will serve as the operational points of contact at each stakeholder location



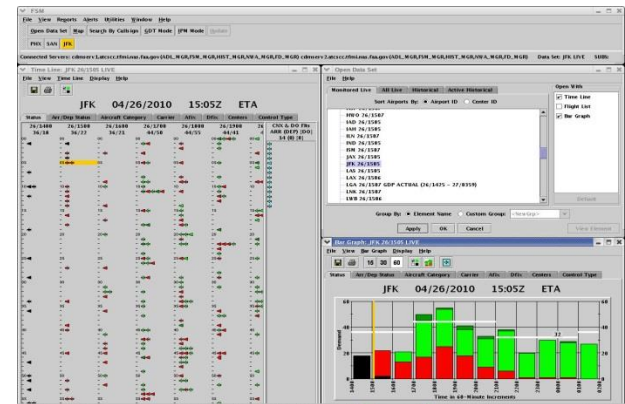
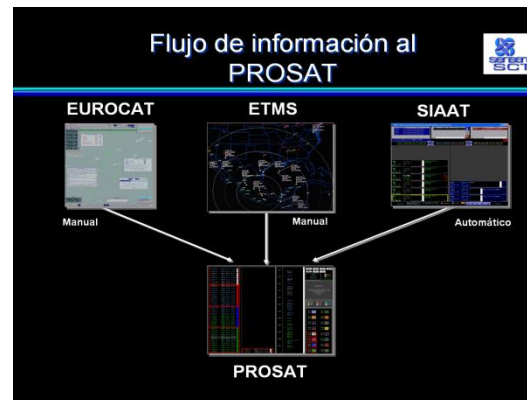
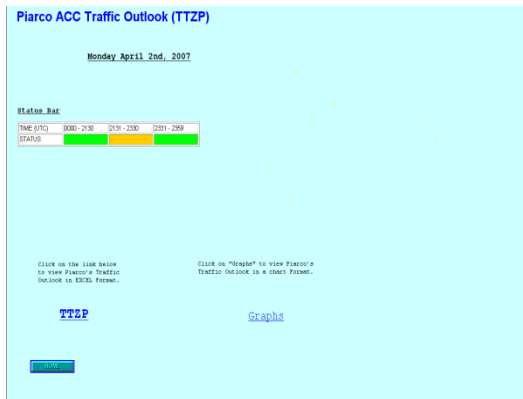
ATFM Personnel

- Area control centre
- Approach control
- Control tower
- Airport operations centre
- Airline operations centre
- Meteorological office
- Military flight operations centre
- General aviation operations centre



Predict Demand

- Establish a process for predicting demand
 - Airport
 - Sector



Traffic Management Measures

- Discuss and develop traffic management measures that will be applied to balance demand and capacity
 - For example:
 - Miles-in-trail
 - Reroutes
 - Level capping
 - Ground delay program
- Develop the process for implementing them



ATFM Letters of Agreement

- Develop the applicable ATFM Operational Letters of Agreement



SMART

ATCSCC



FEDERAL AVIATION ADMINISTRATION (FAA) DAVID J. HURLEY
AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC)/
SERVICIOS A LA NAVEGACIÓN EL ESPACIO AÉREO MEXICANO (SENEAM)
CENTRO DE CONTROL DE FLUJO MÉXICO (CCFMEX)

LETTER OF AGREEMENT

EFFECTIVE: **MAR 7 2007**

SUBJECT: ATCSCC/CCFMEX COLLABORATION

The FAA and Servicios a la Navegación el Espacio Aéreo Mexicano (SENEAM) enter into this letter of agreement (LOA) to facilitate the safe and efficient movement of air traffic between and over both countries.

1. PURPOSE: The purpose of this LOA is to establish continuity of operations and air traffic flow management (ATFM) procedures between the ATCSCC in Herndon, Virginia, and the CCFMEX in Mexico City, Mexico. This LOA is not intended to replace any local agreements between Mexican area control centers (ACC) and United States air route traffic control centers (ARTCC). This LOA will promote coordination and collaboration between the ATCSCC and the CCFMEX regarding ground delay programs (GDP), airspace flow programs (AFP), and the routing of aircraft into and out of United States and Mexican airspace. The ATCSCC and the Mexico CCFMEX will be the primary points of contact for coordinating traffic management (TM) initiatives and operations between the United States and Mexico.

2. SCOPE: The procedures outlined are for use by the ATCSCC and the CCFMEX to provide normal air traffic services.

3. DEFINITIONS:

- a. ACC – Area Control Center
- b. AFP – Airspace Flow Program
- c. ATCSCC – David J. Hurley Air Traffic Control System Command Center
- d. CCFMEX – Mexican Flow Control Center
- e. GDP – Ground Delay Program
- f. OP – Operations Plan
- g. RVSM – Reduced Vertical Separation Minima
- h. SENEAM – Servicios a la Navegación en el Espacio Aéreo Mexicano

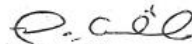
(4) The principal TM techniques to be implemented will consist of miles-in-trail, minutes-in-trail, reroutes, en route spacing programs, GDPs, AFPs, and ground stops.

(5) The ATCSCC and the CCFMEX will collaborate on the design of preferred routes and Severe Weather Avoidance Plan routes that use both Mexican and United States airspace or resources.

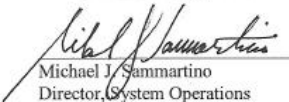
(6) The ATCSCC and the CCFMEX will provide feedback and share data on the impact and assessment of joint TM initiatives as required.

6. IMPLEMENTATION: The procedures outlined in this letter of agreement will be implemented by operational personnel at the ATCSCC in the United States and at the CCFMEX in Mexico.

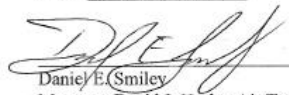
7. REVIEW PERIOD: The ATCSCC and the CCFMEX agree to participate in a yearly review of this document.


Michael A. Cirillo
Vice President, System Operations Services
Federal Aviation Administration


Date: FEB 28 2007


Michael J. Sammartino
Director, System Operations
Federal Aviation Administration

Date: FEB. 28, 2007


Danie E. Smiley
Manager, David J. Hurley Air Traffic
Control System Command Center
Federal Aviation Administration

Date: FEB 28 2007


Ing. Agustín Arellano Rodríguez
Director General
Servicios a la Navegación en el Espacio Aéreo
Mexicano

Date: MARCH 7, 2007


C.T.A. Miguel Pérez Lira
Director General Adjunto de Transito Aereo
Servicios a la Navegación en el Espacio Aéreo
Mexicano

Date: MARCH 7, 2007


C.T.A. Ricardo Torres Muela
Direccion de Transito Aereo
Servicios a la Navegación en el Espacio Aéreo
Mexicano

Date: MARCA 07, 2007.



NOC

ATCSCC



FEDERAL AVIATION ADMINISTRATION (FAA) DAVID J. HURLEY
AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER (ATCSCC)/
NAV CANADA NATIONAL OPERATIONS CENTRE (NOC)

LETTER OF AGREEMENT

EFFECTIVE: May 31, 2006

SUBJECT: ATCSCC/NOC COLLABORATION

NAV CANADA and the FAA enter into this Letter of Agreement (LOA) to facilitate the safe and efficient movement of air traffic between and over both countries, pursuant to the Canada/United States treaty relating to aircraft control near the common boundary and the NAV CANADA and FAA Agreement CON-1-7500, of which Annex 1 relates to air traffic management.

1. PURPOSE: The purpose of this LOA is to establish continuity of operations and air traffic flow management (ATFM) procedures between the ATCSCC in Herndon, Virginia, and the NOC in Ottawa, Canada. This LOA is not intended to replace any local agreements between Canadian Area Control Centres (ACC) and United States Air Route Traffic Control Centers (ARTCC). This LOA will promote coordination and collaboration between the ATCSCC and the NOC regarding Ground Delay Programs (GDP), Airspace Flow Programs (AFP) and the routing of aircraft into and out of U.S. and Canadian airspace. This will mandate that the NOC and the ATCSCC be the primary points of contact for the coordination of traffic management (TM) initiatives and operations between the United States and Canada.

2. SCOPE: The procedures outlined herein are for use by the ATCSCC and NOC to provide normal air traffic services.

3. DEFINITIONS:

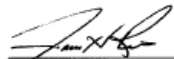
- a. ACC – Area Control Centre
- b. AFP – Airspace Flow Program
- c. ATCSCC – David J. Hurley Air Traffic Control Area Control System Command Center
- d. GDP – Ground Delay Program
- e. NAT – North Atlantic Tracks
- f. NOC – National Operations Centre
- g. OP – Operations Plan
- h. TM – Traffic Management

(5) The ATCSCC and NOC will collaborate on the design of preferred routes and Severe Weather Avoidance Plan routes that use both Canadian and United States airspace or resources.


(6) The ATCSCC and NOC will provide feedback and share data on the impact and assessment of joint TM initiatives as required.

6. IMPLEMENTATION: The procedures outlined in this letter of agreement will be implemented by operational personnel at the ATCSCC in the United States and at the NOC in Canada.

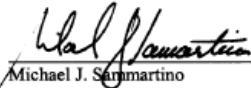
7. REVIEW PERIOD: The NOC and ATCSCC agree to participate in a yearly review of this document.


James H. Ries
Federal Aviation Administration
Acting Manager, David J. Hurley Air Traffic
Control System Command Center


Date: 3/27/06


David Rome
NAV CANADA
Manager, National Operations Centre

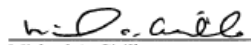
Date: April 28/06


Michael J. Sammartino
Federal Aviation Administration
Director of System Operations Services

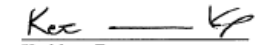
Date: MAY 29, 2006


Arlene Yackley
NAV CANADA
Director, IFR Operations

Date: May 2/06


Michael A. Cirillo
Federal Aviation Administration
Vice President, System Operations Services

Date: MAY 29, 2006


Kathleen Fox
NAV CANADA
Vice President, Operations

Date: MAY 12, 2006

ATFM Procedures Manual

- Develop the procedures manual and training materials associated with implementing the initial phase of ATFM
- Examples include:
 - Flow Management Unit
 - Flow Management Positions
 - Stakeholder ATFM Positions

ATFM Training

- Train the appropriate personnel regarding the processes and procedures necessary for ATFM implementation



ATFM Implementation

- Establish an implementation date for the ATFM service
- Implement the process and procedures
- Evaluate the results
- Coordinate and make adjustments, as necessary

Summary

- **Take the best from ATFM lessons learned around the world ... and**
- **Develop your ATFM solution ... then**
- **Connect your solution to the developing global ATFM system**



YOUR PHOTO HERE



**The vision:
Seamless
ATFM
Operations
Around
the
World**





8th
Global ATFM
Conference



Thank you !