



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

*A United Nations Specialized Agency*

# **An Overview of ATCSCC and ATFM Operations**

Presented to: ICAO Workshop on Regional  
Implementation on PBN Airspace Redesign


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**May 4-8, 2015**

# What is Traffic Management?



 Traffic Management is the craft of managing the flow of air traffic based on capacity and demand.

# Systems Approach



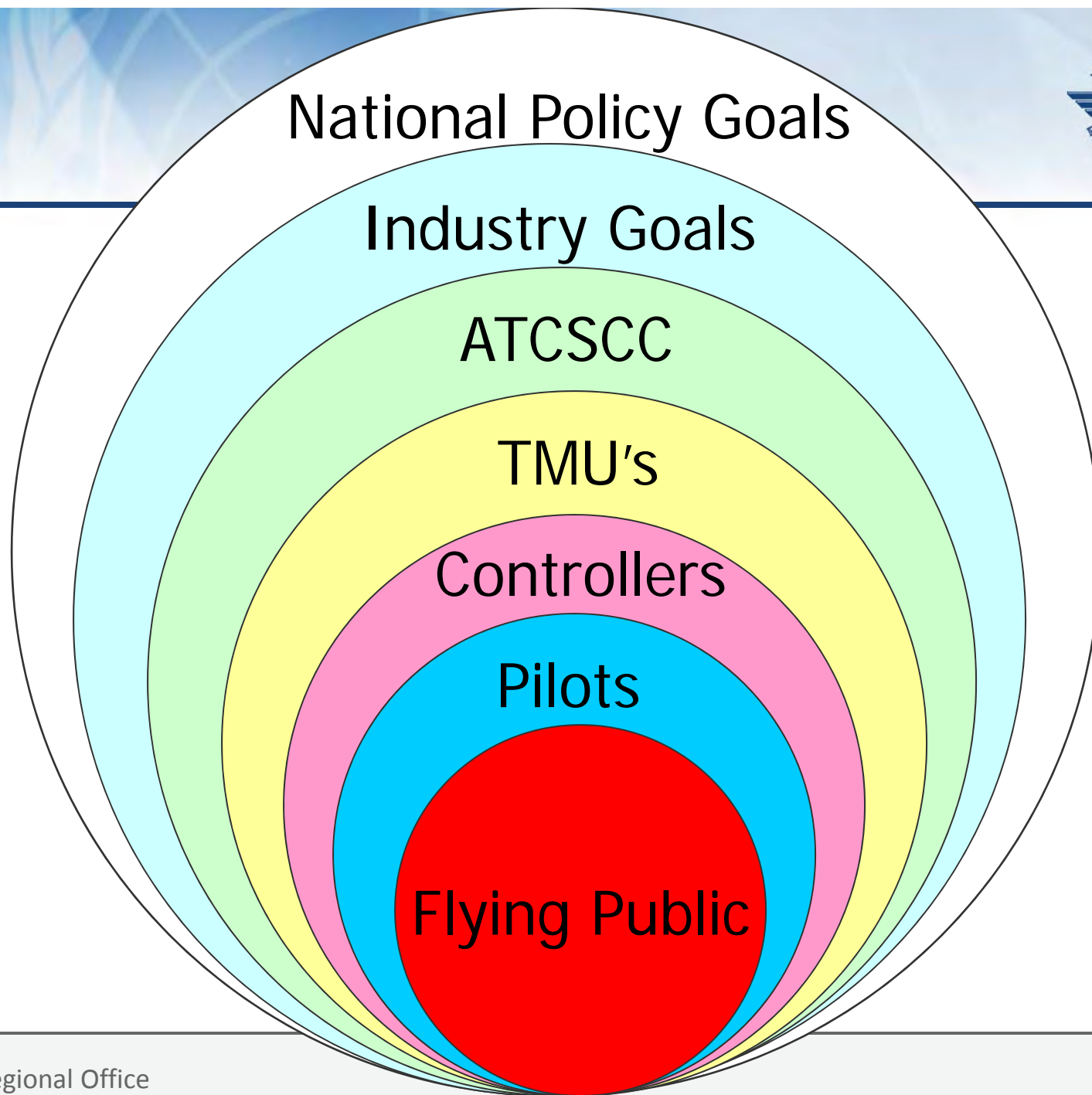
- ✈️ A management approach that considers the impact of individual actions on the whole.
- ✈️ Considers impacts and focus on ensuring equity in service delivery
- ✈️ A system approach – collaborating with stakeholders.
- ✈️ Stakeholders consider costs and benefit to the system



# Collaborative Decision Making (CDM)

CDM is an:

✈️ Operational philosophy and the associated technologies that enables Air Navigation Service providers and aviation industry to respond collaboratively to real-time operational constraints in the National Airspace System

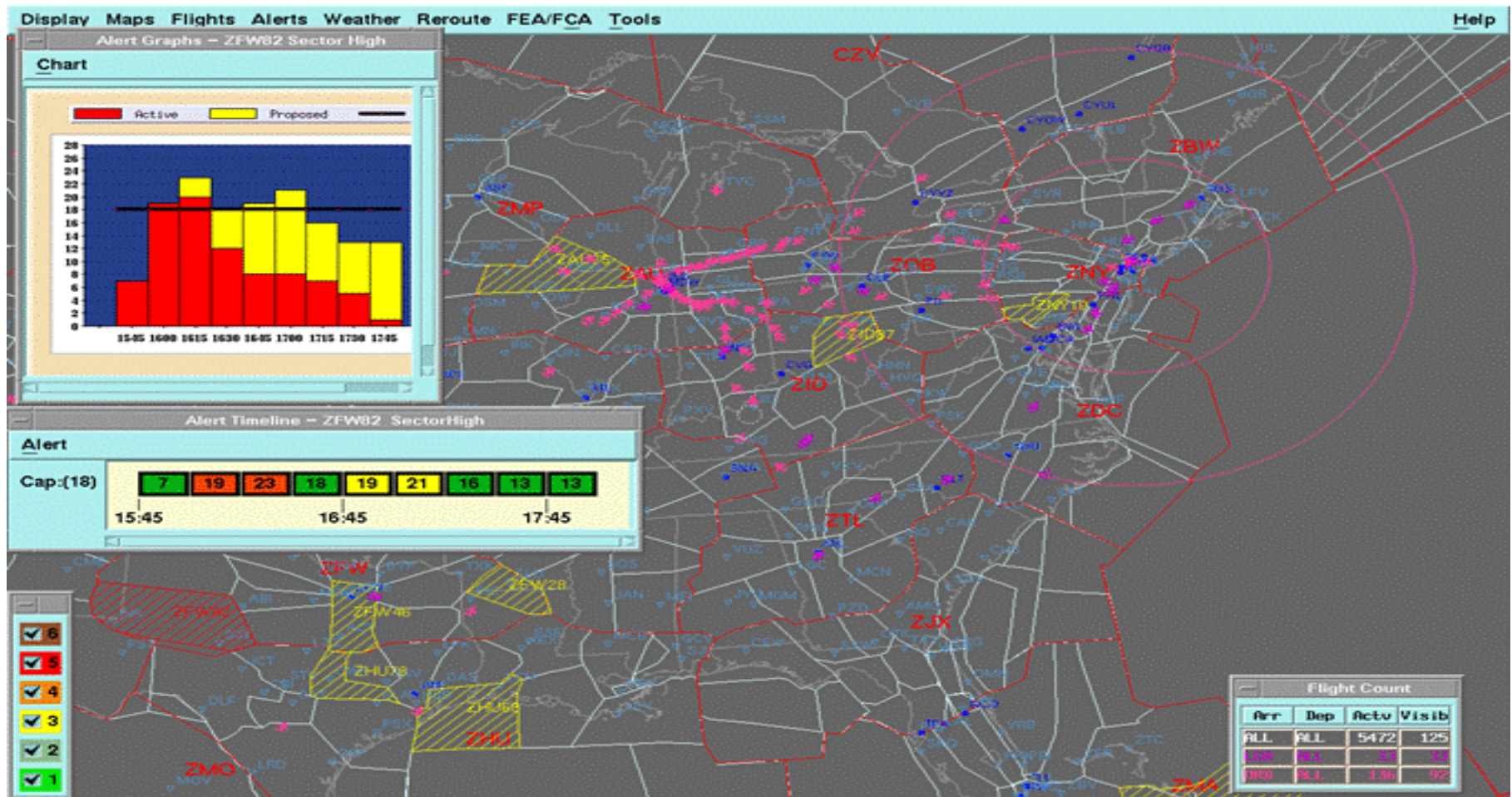


# ATCSCC Operational Units





# Enhanced Traffic Management System (ETMS)



## ATFM Mission:

Balance air traffic demand with  
system capacity to ensure system  
efficiency of the Overall Airspace System





## Phases of a Commercial Flight



**From the beginning of an IFR flight until the end, Traffic Flow Management has a role to play**

# Traffic Flow Management Initiatives

Miles-in-trail (MIT)

Ground Delay Program (GDP)

Airspace Flow Program (AFP)

Ground Stop (GS)



# Miles-in-Trail (MIT)



- ✈️ Miles-in-trail describes the number of miles required between aircraft departing an airport, over a fix, at an altitude, thru a sector, or route specific.
- ✈️ MITs are used to apportion traffic into a manageable flow, as well as provide space for additional traffic to enter the flow.

## Ground Delay Program GDP

- ✈️ A GDP -- aircraft are delayed at departure point to manage demand at their destination.
- ✈️ Flights are assigned departure times
- ✈️ GDP implemented at airports where capacity has been reduced or when demand exceeds capacity for a sustained period.
- ✈️ The purpose of the program is to limit airborne holding.

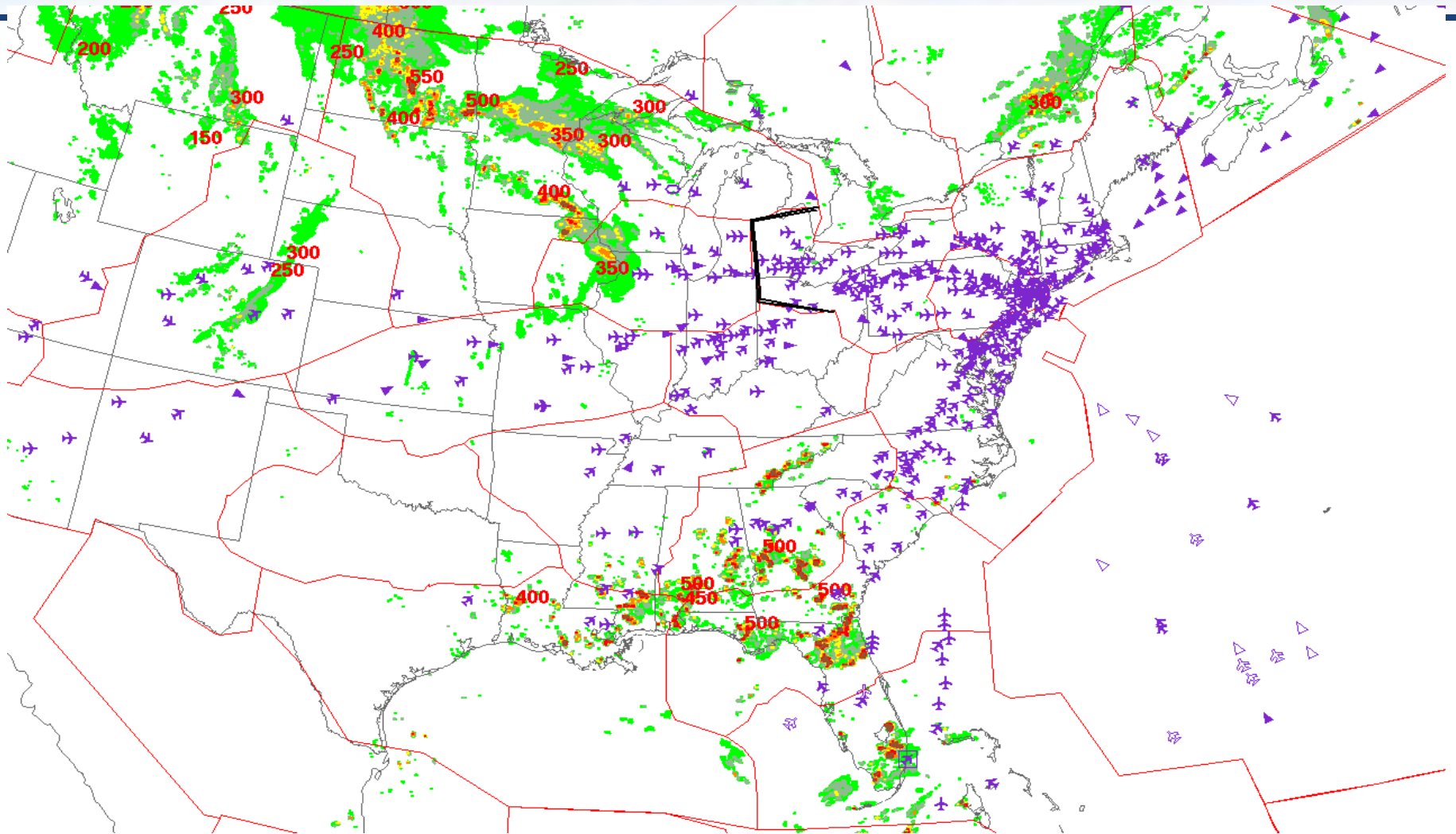


# Airspace Flow Programs (AFP's)

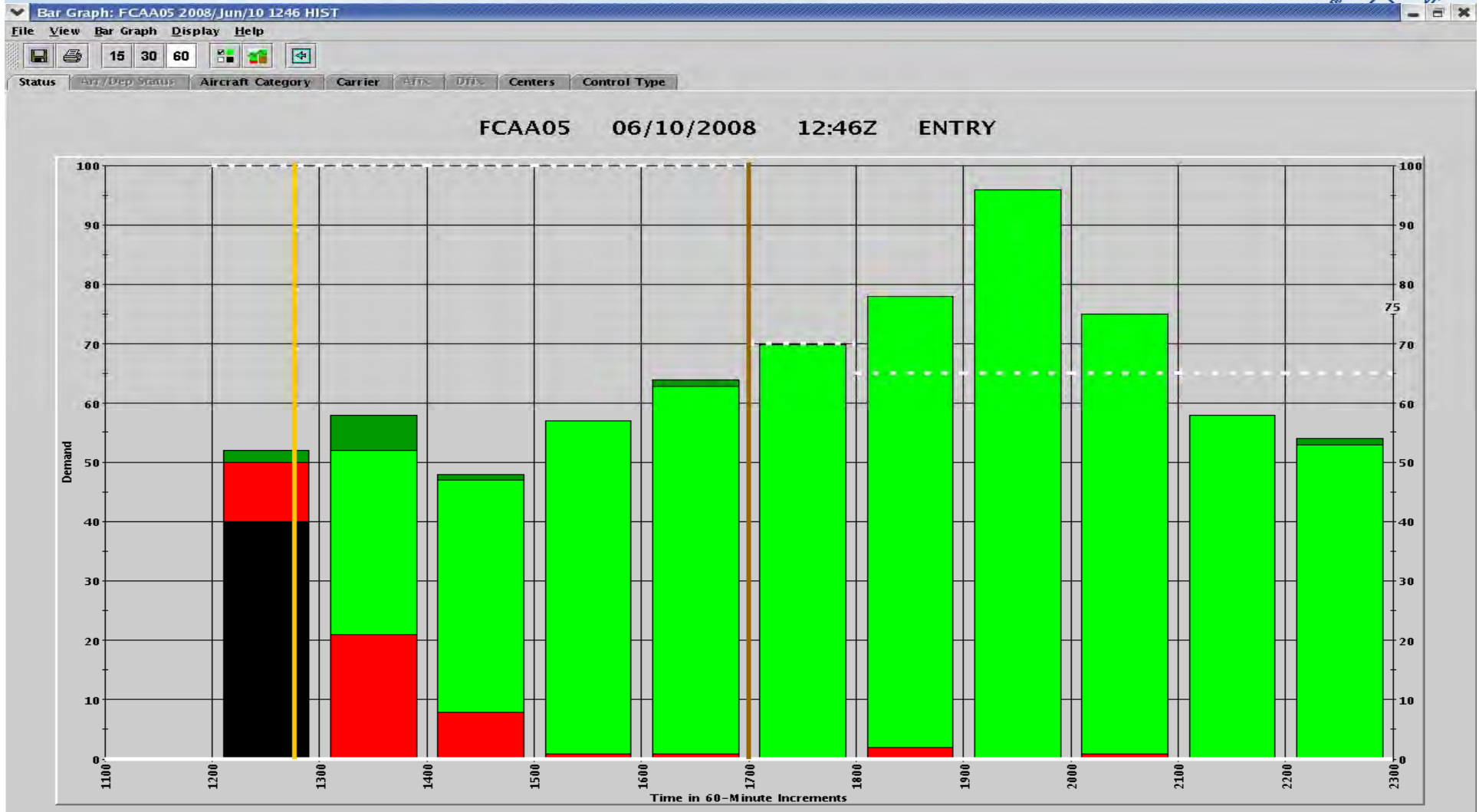
- ✈️ AFP's are like GDP's in the Air.
- ✈️ Provides enhanced en route traffic management during severe weather events.
- ✈️ An AFP develops a real time list of flights that are filed into a constrained area and distributes controlled departure times to meter the demand through the area.



# Airspace Flow Program (AFP)



# AFP Eastbound Demand



# AFP Eastbound Demand



## Ground Stops (GS)

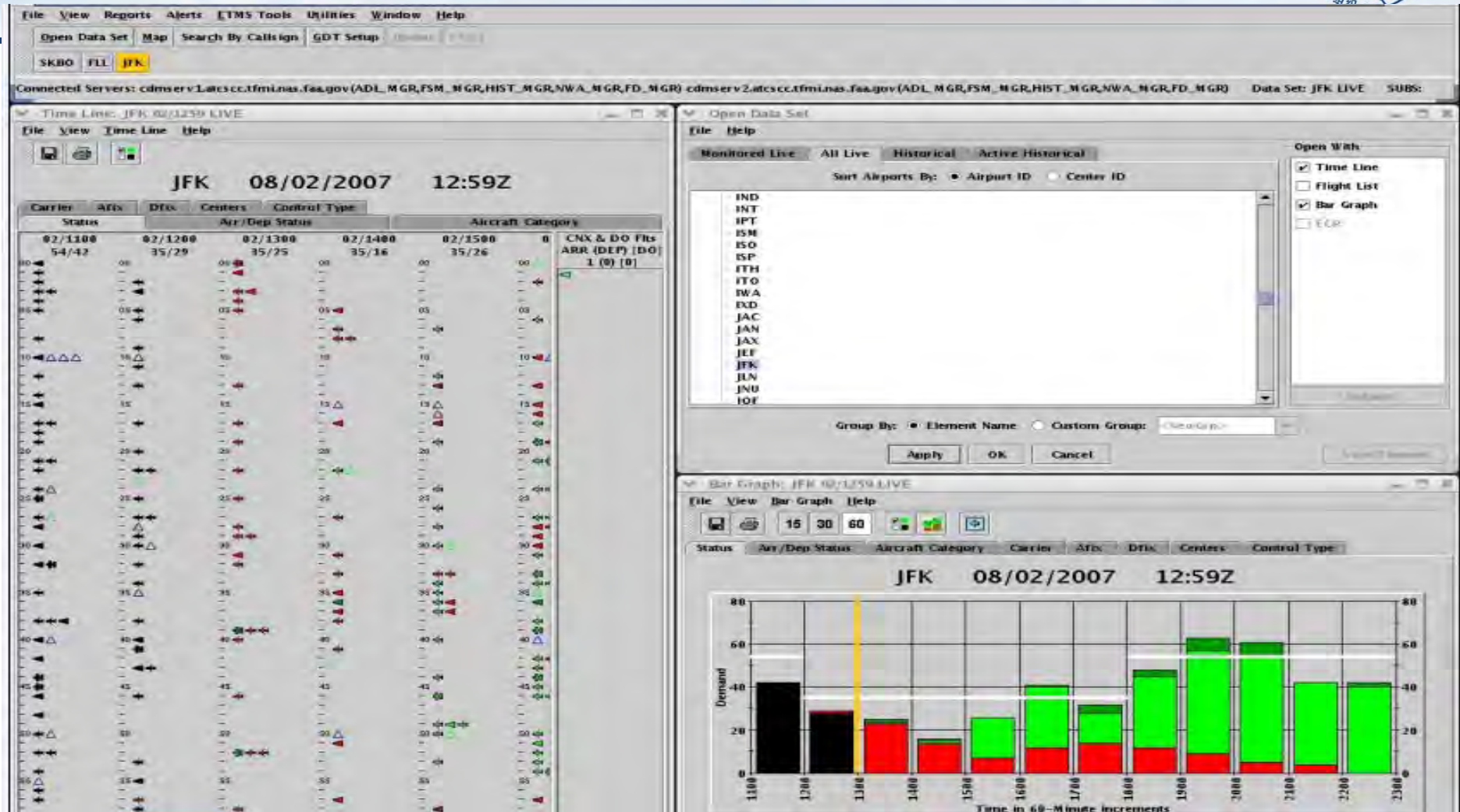
- ✈️ Requires aircraft to remain on the ground.
- ✈️ Occur with little or no warning.
- ✈️ Used in severely reduced capacity situations (weather) or to preclude sector/center reaching near saturation levels or airport grid lock.

## Ground Stops (GS)

- ✈️ When routings are unavailable due to severe weather.
- ✈️ When routings are unavailable due to catastrophic events.
- ✈️ NOTE: Helicopters are exempt from ground stops based on weather unless specifically included when requesting the ground stop.



# Flight Schedule Monitor (FSM)



# FAA National Playbook (pre-coordinated routes)



✈️ Original concept: summer 1999

✈️ First use: spring 2000

✈️ Purpose:

✈️ to enhance communication, and

✈️ promote common situational awareness  
between the ATCSCC, FAA field facilities, and  
customer community



# National Playbook



## Playbook Table Of Contents

- National PlayBook Menu
- [-] PlayBook
    - Change for Jul 7, 2005
    - [-] Airports
      - ATL ERLIN-RMG
      - ATL HONIB-LGC
      - BOS ORW
      - BOS ORW-SCUPE
      - CVG CINCE 1
      - CVG CINCE 2
      - CVG EAST
      - CVG MOSEY
      - CVG SWEED 1
      - CVG SWEED 2
      - CVG TARNE
      - DEN OBH
      - DEN ONL
      - DFW BYP 1
      - DFW BYP 2
      - DFW COY
      - DFW EAST 1
      - DFW EAST 2
      - DFW JEN
      - DFW UKW
      - DFW WEST
      - DTW CETUS
      - DTW EAST
      - DTW MIZAR
      - DTW SPICA
      - IAD MULRR 1
      - IAD MULRR 2
      - IAD MULRR 3

## Air Traffic Control System Command Center



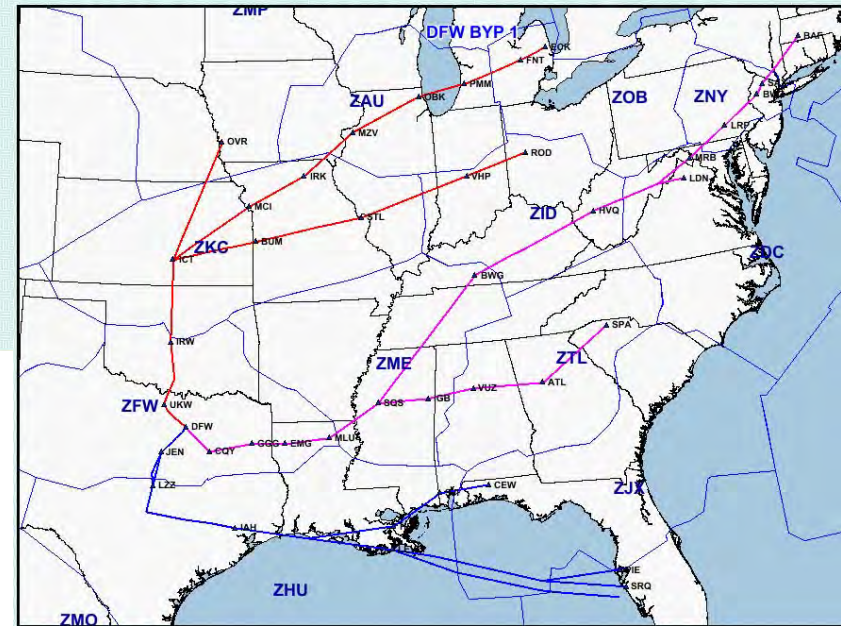
## National Severe Weather Playbook

## DFW BYP 1

Impacted Area or Flow: DFW BYP STAR

Facilities Included: ZFW/ZME/ZID/ZDC/ZNY/ZBW/CZY/ZTL/ZHU/ZJX/ZMA/ZRC/ZAU/ZOB/ZMP

Instructions: REROUTE ANY AIRBORNE TRAFFIC AND INTERNAL DEPARTURES DESTINED THE DFW TERMINAL AREA VIA THE FOLLOWING ROUTES. SUBSTITUTE OTHER DESTINATION IN PLACE OF DFW IF APPLICABLE







# Coded Departure Routes (CDRs)



RMT 1.1  
Program Settings Modifications Reports Window Help

CDR Tool

EFFECTIVE 0901Z 27 Dec 2001  
TO 0901Z 21 Feb 2002

Query Fields: Operational

Route Code:  Origin/Dep Center:  Destination/Arr Center:  Departure Fix:  Date/Time:

Route String:  Remarks:  ModFlag:

Database

Operational  
 Staging

Query Results: Operational

Time	RCode	Orig	Dest	Route String	DepFix	DCNTR	ACNTR	ModFlag	Remarks
2001-12-27 11:50:29	EWRDFW36	KEWR	KDFW	KEWR COATE J36 WAAKE J29 PXX J131 LIT BYP4 KDFW	COATE	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW48	KEWR	KDFW	KEWR LANNA J48 MOL J22 VVV J46 BNA J46 J6 LIT BYP4 KDFW	LANNA	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW60	KEWR	KDFW	KEWR ELIOT J60 DJB J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW64	KEWR	KDFW	KEWR ELIOT ETX RAW J84 J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW70	KEWR	KDFW	KEWR DDOE V276 PREPI OWENZ LINND BETNY KATHY A700 CARPS AR5 J...	DDOE	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW75	KEWR	KDFW	KEWR BIGGY J75 GSO J14 VUZ J52 SQS COY5 KDFW	BIGGY	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW80	KEWR	KDFW	KEWR ELIOT J80 FYLLS J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:50:28	EWRDFW86	KEWR	KDFW	KEWR BIGGY J75 GVE J37 SPA J14 VUZ J14 LIT BYP4 KDFW	BIGGY	ZNY	ZFW	-	
2001-12-27 11:50:25	EWRDFW87	KEWR	KDFW	KEWR PARKE J6 COLNS J134 STL RZC FSM BYP4 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:50:25	EWRDFW89	KEWR	KDFW	KEWR WHITE J209 ORF J174 ILM J4 CAE J52 ATL J14 LIT BYP4 KDFW	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:25	EWRDFWCA	KEWR	KDFW	KEWR GREK V419 JUDDS CAM J547 SYR J29 PXX J131 LIT BYP4 KDFW	GREK	ZNY	ZFW	-	
2001-12-27 11:50:24	EWRDFWCH	KEWR	KDFW	KEWR WHITE J209 ORF J174 CHS J40 MGM J4 JAN ELD TXK BYP4 KDFW	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:24	EWRDFWJ5	KEWR	KDFW	KEWR PARKE J6 BWG SQS AEX LFK CWK LZZ JEN JEN8 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:50:23	EWRDFWJ6	KEWR	KDFW	KEWR PARKE J6 BWG ARG FSM BYP4 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:50:23	EWRDFWJ8	KEWR	KDFW	KEWR WHITE J209 ORF J174 ILM J4 CAE J52 SQS AEX LFK CWK LZZ JEN J...	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:23	EWRDFWJ9	KEWR	KDFW	KEWR WHITE J209 ORF J174 CHS J40 MGM J590 LCH J2 IAH CWK LZZ JE...	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:22	EWRDFWKA	KEWR	KDFW	KEWR WHITE J209 SBY J79 KATZN J193 WEAVR J121 ISO FLO CAE J52 TX...	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:22	EWRDFWLM	KEWR	KDFW	KEWR WHITE J209 ORF J174 ILM J4 CAE J52 TXK BYP4 KDFW	WHITE	ZNY	ZFW	-	
2001-12-27 11:50:22	EWRDFWPH	KEWR	KDFW	KEWR PARKE J6 LIT BYP4 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:50:21	EWRDFWQ5	KEWR	KDFW	KEWR LANNA J48 MOL J22 VUZ J52 SQS COY5 KDFW	LANNA	ZNY	ZFW	-	
2001-12-27 11:50:21	EWRDFWQ6	KEWR	KDFW	KEWR PARKE J6 BWG SQS COY5 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:50:21	EWRDFWQ7	KEWR	KDFW	KEWR ELIOT J60 DJB J29 ROD J39 BU BWG SQS COY5 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:50:21	EWRDFWU6	KEWR	KDFW	KEWR ELIOT J60 JOT MZV IRK J26 ICT IRW UKW7 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:50:20	EWRDFWU8	KEWR	KDFW	KEWR ELIOT J80 VHP J24 STL J19 ICT IRW UKW7 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:42:45	HPNDFW36	KHPN	KDFW	KHPN COATE J36 WAAKE J29 PXX J131 LIT BYP4 KDFW	COATE	ZNY	ZFW	-	
2001-12-27 11:42:45	HPNDFW48	KHPN	KDFW	KHPN LANNA J48 MOL J22 VVV J46 BNA J46 J6 LIT BYP4 KDFW	LANNA	ZNY	ZFW	-	
2001-12-27 11:42:44	HPNDFW60	KHPN	KDFW	KHPN ELIOT J60 DJB J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:42:44	HPNDFW64	KHPN	KDFW	KHPN ELIOT ETX RAW J84 J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:42:43	HPNDFW75	KHPN	KDFW	KHPN BIGGY J75 GSO J14 VUZ J52 SQS COY5 KDFW	BIGGY	ZNY	ZFW	-	
2001-12-27 11:42:42	HPNDFW80	KHPN	KDFW	KHPN ELIOT J80 FYLLS J29 PXX J131 LIT BYP4 KDFW	ELIOT	ZNY	ZFW	-	
2001-12-27 11:42:41	HPNDFW86	KHPN	KDFW	KHPN BIGGY J75 GVE J37 SPA J14 VUZ J14 LIT BYP4 KDFW	BIGGY	ZNY	ZFW	-	
2001-12-27 11:42:41	HPNDFW87	KHPN	KDFW	KHPN PARKE J6 COLNS J134 STL RZC FSM BYP4 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:42:41	HPNDFW89	KHPN	KDFW	KHPN WHITE J209 ORF J174 ILM J4 CAE J52 ATL J14 LIT BYP4 KDFW	WHITE	ZNY	ZFW	-	
2001-12-27 11:42:41	HPNDFWCA	KHPN	KDFW	KHPN GREK V419 JUDDS CAM J547 SYR J29 PXX J131 LIT BYP4 KDFW	GREK	ZNY	ZFW	-	
2001-12-27 11:42:38	HPNDFWCH	KHPN	KDFW	KHPN WHITE J209 ORF J174 CHS J40 MGM J4 JAN ELD TXK BYP4 KDFW	WHITE	ZNY	ZFW	-	
2001-12-27 11:42:37	HPNDFWJ5	KHPN	KDFW	KHPN PARKE J6 BWG SQS AEX LFK CWK LZZ JEN JEN8 KDFW	PARKE	ZNY	ZFW	-	
2001-12-27 11:42:36	HPNDFWJ6	KHPN	KDFW	KHPN PARKE J6 BWG ARG FSM BYP4 KDFW	PARKE	ZNY	ZFW	-	

1-138 / 138 records

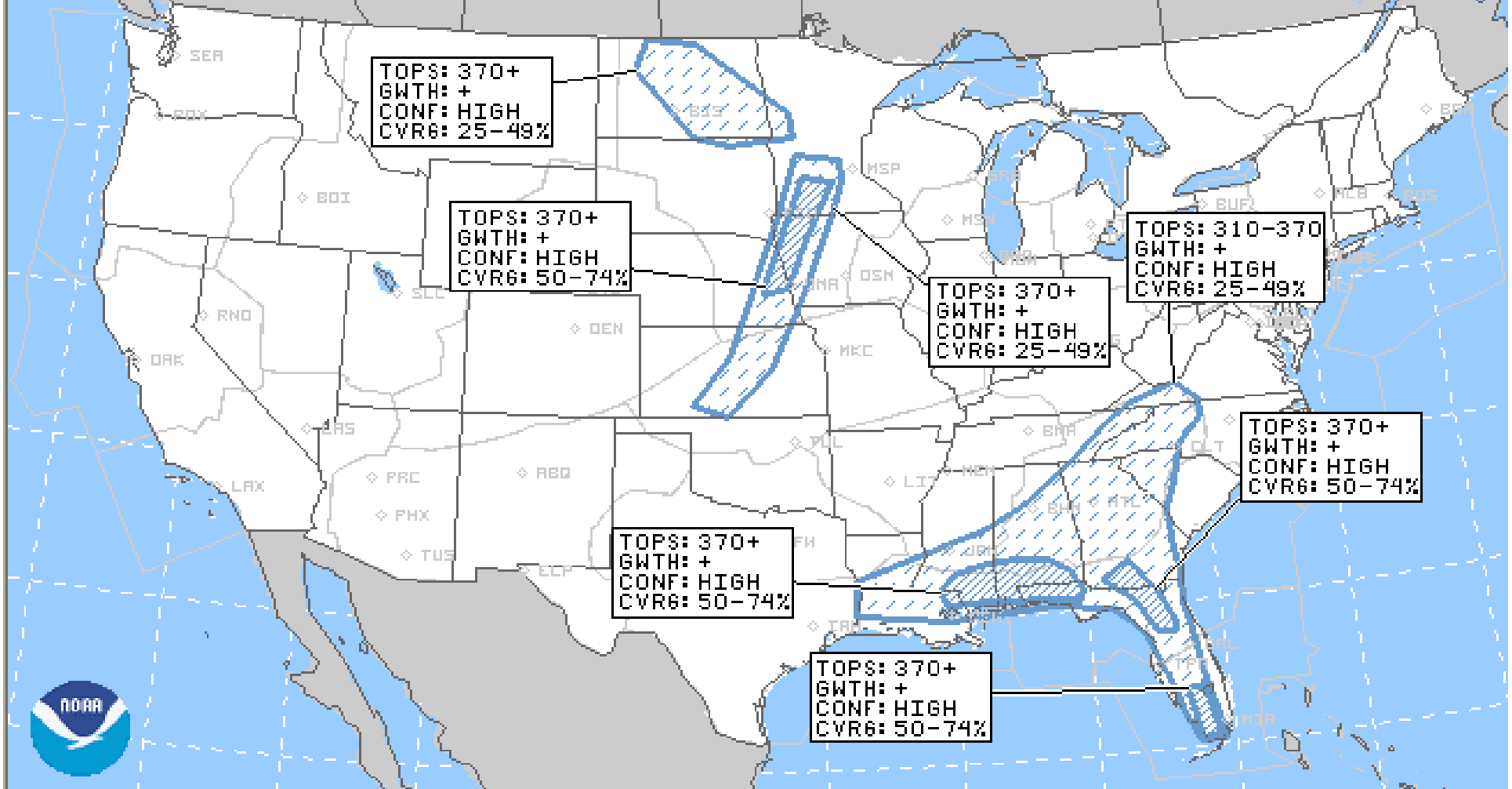


# Weather Products: CCFP

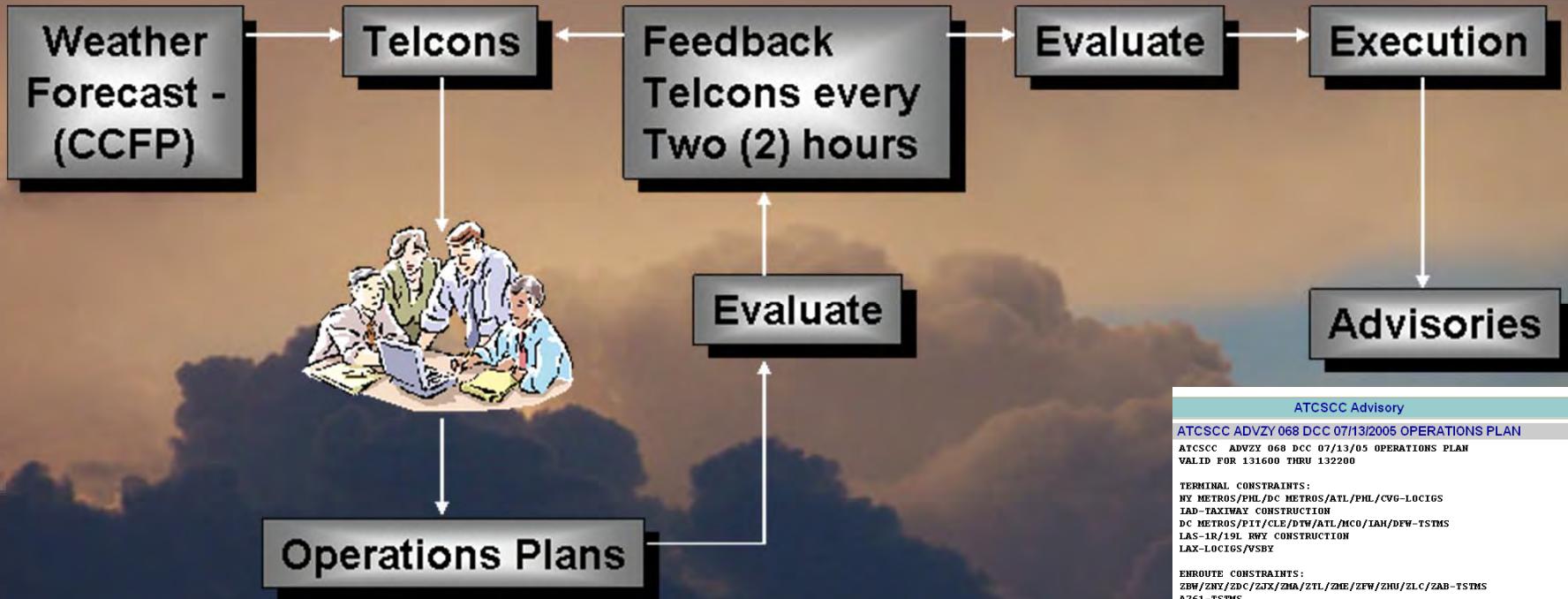


COLLABORATIVE CONVECTIVE FORECAST PRODUCT

VALID: 2300 UTC WED 11 JUN 2008



# The Planning Process



ATCSCC Advisory

**ATCSCC ADVZY 068 DCC 07/13/2005 OPERATIONS PLAN**

ATCSCC ADVZY 068 DCC 07/13/05 OPERATIONS PLAN  
VALID FOR 131600 THRU 132200

TERMINAL CONSTRAINTS:  
 NY METROS/PHL/DC METROS/ATL/PHL/CVG-LOCIGS  
 IAD-TAXIWAY CONSTRUCTION  
 DC METROS/PIT/CLE/DTW/ATL/MCO/IAH/DFW-TSMTS  
 LAS-1R/19L RWY CONSTRUCTION  
 LAX-LOCIGS/VSBY

ENROUTE CONSTRAINTS:  
 ZBW/ZNY/ZDC/ZJX/ZMA/ZTL/ZME/ZFW/ZHU/ZLC/ZAB-TSMTS  
 R761-TSMTS  
 R763-CLSD TILL 1900 DUE TO TSMTS  
 ZJX/ZMA-SPACE SHUTTLE LAUNCH

1. ROUTES  
 1800-0000 -CHOKPOINT ROUTES TO EWR/JFK (FCA)  
 AFTER 1800 -SNOWBIRD 6 PLAYBOOK ROUTES PSBL  
 AFTER 1600 -MRP SUSPENDED VIA J29 ZFW/ZHU/ZME TO NORTHEAST  
 AFTER 1700 -POSSIBLE PLAYBOOK ROUTES, INCLUDING MCM AND/OR  
 CANADIAN ROUTES TO THE NORTHEAST POSSIBLE

2. ZNY  
 UNTIL 0300 -LGA/EWR/PHL GROUND DELAY PROGRAMS  
 UNTIL 0200 -NY METROS/PHL CDRS/SWAP, GROUND STOPS PSBL  
 AFTER 1700 -JFK GROUND DELAY PROGRAM PSBL  
 UNTIL 0000 -TEB GAAP GROUND DELAY PROGRAM EXPECTED

3. ZOB  
 AFTER 1900 -DTW/CLE/PIT CDRS/SWAP, TACTICAL REROUTES, CAPPING/  
 TUNNELING, GROUND STOPS PSBL

4. ZTL  
 UNTIL 0400 -ATL GROUND DELAY PROGRAM  
 UNTIL 0000 -ATL CDRS/SWAP, GROUND STOPS PROBABLE  
 AFTER 1800 -CLT CDRS/SWAP, TACTICAL REROUTES

5. ZJX/ZMA  
 UNTIL 2300 -TACTICAL REROUTES, CAPPING/TUNNELING

\*\*\* SUBMIT NEW OPERATIONS PLAN AGENDA ITEMS VIA OIS PAGE \*\*\*

NEXT PLANNING TELCON: 131715Z  
 PARTICIPATION REQUIRED BY: ALL CENTERS/M90  
 131545-131759  
 05/07/13 15:45 FSA.//1xstn08a

# ATCSCC Web Site



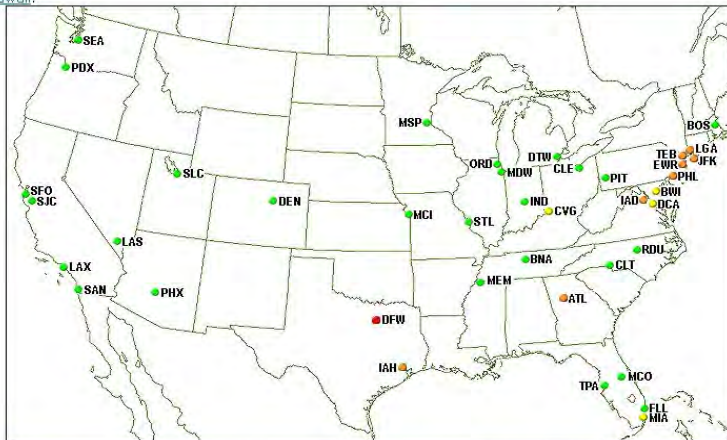
The Federal Aviation Administration

## Air Traffic Control System Command Center

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Welcome to the [ATCSCC Real-time Airport Status](#) page. ([Text-only version](#)). If your airport of interest is not shown, you can zoom in to the [Northwestern States](#), the [North Central States](#), the [Northeastern States](#), the [Southwestern States](#), the [South Central States](#), the [Southeastern States](#), or [Alaska and Hawaii](#).



The status information provided on this site indicates general airport conditions; it is not flight-specific. [Check with your airline](#) to determine if your flight is affected. Information on [wait times at security checkpoints](#).

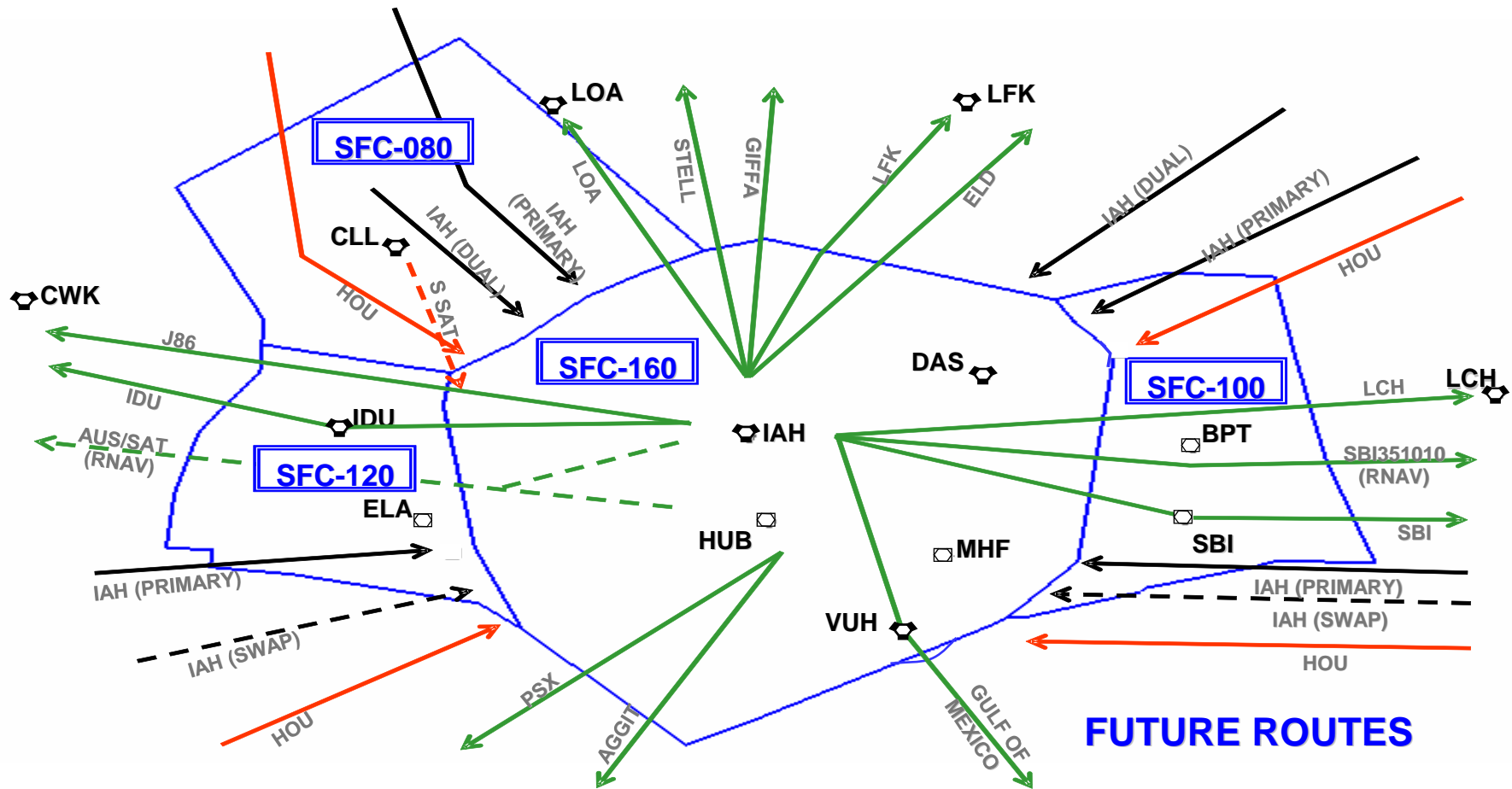
### Legend

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>● General Arrival/Departure delays are 15 minutes or less.</li><li>● Departures are experiencing taxi delays of 16 to 45 minutes and/or arrivals are experiencing airborne holding delays of 16 to 45 minutes.</li><li>● Traffic destined to this airport is being delayed at its departure point. Check your departure airport to see if your flight may be affected.</li></ul> | <ul style="list-style-type: none"><li>● Departures are experiencing taxi delays greater than 45 minutes and/or arrivals are experiencing airborne holding delays greater than 45 minutes.</li><li>● Closed airport</li></ul> |
|--|--|

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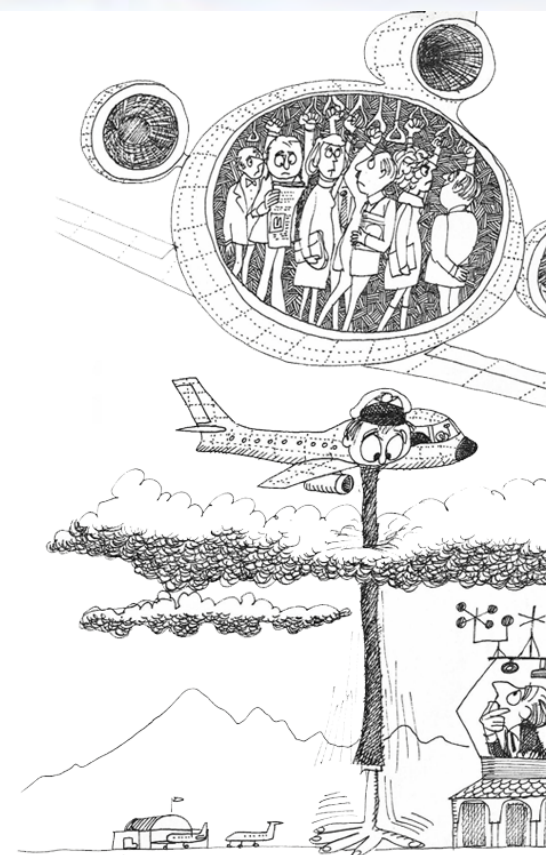
# Example of Approach Routes



**FUTURE ROUTES**



**Without international rules  
air travel would be in chaos.**







North American  
Central American  
and Caribbean  
(NACC) Office  
Mexico City

South American  
(SAM) Office  
Lima

ICAO  
Headquarters  
Montreal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Office  
Bangkok

**Thank You**

[www.icao.int/nacc](http://www.icao.int/nacc)