

**SIP/2009-WP/10**

**eANP**

**Framework**



# **Global Air Navigation System Performance Based Air Navigation eANP Framework**

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International Civil Aviation Organization**

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**Workshop on the Development of  
National Performance Framework to achieve a  
Global ATM System**

ICAO-ANB

**(Mexico City, 6-10 July 2009)**

# Presentation Outline



- eANP Framework Overview
- Objectives
- Deliverables
- eANP Transition Architecture
- eANP Toolbox
- ICARD
  - ✓ Amendment tool
  - ✓ MET data maintenance
  - ✓ VHF Communications Planner
  - ✓ CNS/AIRS Portal
  - ✓ PBN database
  - ✓ WGS-84 Status Report
- Summary

# eANP Framework Overview



- The electronic Air Navigation Planning Framework will facilitate the coordination and implementation of regional air navigation plans as well as supporting the Global Air Navigation Plan.
- The eANP will contribute to the further development of air navigation planning by providing a framework for the efficient implementation of new air navigation systems and services at the national, regional, inter-regional and global levels.
  - ✓ **The framework will support, in particular, the work of regional planning and implementation groups that plan, monitor and analyse the implementation status of planned facilities and services for inclusion in the regional air navigation plans, and recommend ways to expedite these plans in accordance with ICAO priorities. The availability of this information online will greatly facilitate updating and access to the latest information for States, ICAO regional offices and various other users.**

# eANP Framework Objectives



➔ **This effort has two primary objectives:**

- ✓ i) **at the global level**: reconcile the Regional Air Navigation Plan with the ATM operational concept, the new Global ANP provisions and the ICAO new business planning processes; and
- ✓ ii) **at the regional level**: expedite regional planning and coordination through simplifying and freeing the core of planning from a long and cumbersome formal approval process,
  - the planning and coordination activities are still maintained within the ICAO regional process requirements.

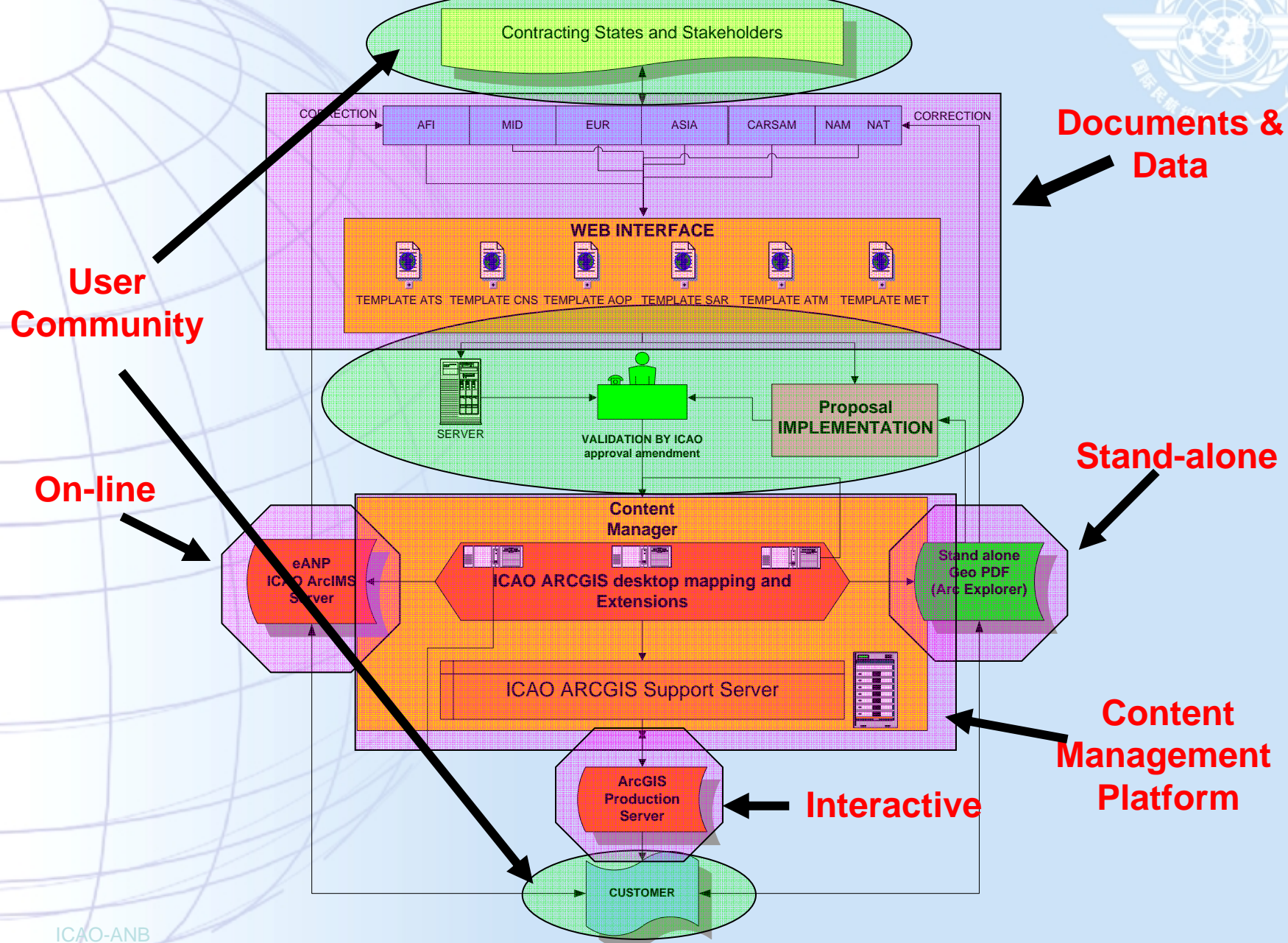
# eANP Framework Deliverables



- ➔ To support the above objectives, the following deliverables will be produced:
- ➔ i) Easy-to-use planning templates that would contain the relevant elements, specifically, homogeneous ATM areas and major international traffic flows, and the agreed Global Air Navigation Plan systems infrastructure necessary to support the implementation of the homogeneous ATM areas and major international traffic flows; and
- ➔ ii) an integrated Air Navigation Planning environment containing details currently listed in Table ATS 1 and all FASID Tables (AOP, CNS, ATM, MET, SAR, AIS). This will be designed to easily support the coordination, agreement and recording process between States and international organisations, also through a user-friendly interface.



# eANP Transition Architecture



# CNS/AIRS AN Planning Toolbox

(GREEN = available today)



- **The air navigation planning toolbox will support the following:**
  - ✓ development and promotion of geographic information systems (GIS) technology by providing the data, tools, and training required to implement and effectively utilize geographic data for planning purposes;
  - ✓ development, deployment and maintenance of a set of planning tools to support an Electronic Air Navigation Plan (eANP) environment
- **5LNC –5LNC database** linked to GIS interface **(ICARD)**
- **eBORPC (ICARD)**
  - ✓ **Online ATS Route Viewer**
  - ✓ Online ATS Route Designer
  - ✓ Online ATS reporting
- **Automated ANP update processing utility**
  - ✓ **Online MET data maintenance module**
  - ✓ Online AOP **viewer** and data maintenance module
  - ✓ Online CNS **viewer** and data maintenance module
  - ✓ Online FIR **viewer** and data maintenance module
- **eFASID (transition from printed tables to user selected reports)**
  - ✓ **Online MET reporting**
  - ✓ Online AOP reporting
  - ✓ Online CNS reporting
- **VHF Communication Planning (beta)**
- **On-line air navigation planning viewer**
- **Stand alone GeoPDF charts**
- **Automated ANP online mapping tool (GIS)**
- **ANP Global Data dictionary**
- **SBAS Channel Allocation Utility**

# ICARD



- ➔ Since October 1995, EUROCONTROL and the ICAO EUR/NAT regional Office have worked together to develop and maintain a common database of facilities and services required for international air navigation within the EUR/NAT region.
- ➔ In February 1998, the first ICAO internet application on the EUROCONTROL website was developed to support the allocation process of five-letter name-codes used for the identification of significant points (for ATS routes) not marked by the site of a radio navigation aid and Designators for ATS Routes

**This application was named ICARD.**



# ICARD Deployment



## → 5LNC : Allocation of unique names for designated points (Annex 11 Appendix 2)

- ✓ Phase 1 1998 – 2009, Eurocontrol host –Global database initialization
- ✓ Phase 2 (2009) a mirror site will be established at an ICAO designated location with GIS interface.
- ✓ Phase 3 the Global system will be transferred to ICAO (2011).

## → Route Designators : Allocation of unique names for ATS Routes (Annex 11 Appendix 1)

- ✓ Phase 1 is the deployment of a “Quality Assured” database and GIS tool at selected ICAO Regional locations (2009).
- ✓ Phase 2 the system will be enabled in all ICAO regions (2010).
- ✓ Phase 3 the Global system will be transferred to ICAO (2011)

# 5LNC – Welcome Page



EUROCONTROL - Five Letter Name-Codes for Designated Points - Microsoft Internet Explorer provided by ICAO ICT

http://www.eurocontrol.int/icard/public/standard\_page/5lnc.html

EUROCONTROL - Five Letter Name-Codes for Design...

EUROCONTROL

Safety Regulation Strategy & Planning ATM Performance Air Traffic Control Air Navigation Charges Training Airports  
Security Civil / Military Research & Development Managing the Traffic Society & Economics Capacity Traffic & Delay Environment

EUROCONTROL > ATM Performance > Icard > 5LNC

ICARD Home

5LNC

- 5LNC - for Public Users
- 5LNC - for Authorised Users
- 5LNC - Monitoring

Route Designators

Indicators

Frequency Management

data\_exchange

## Five Letter Name-Codes for Designated Points

Pilots need physical air navigation aids to reach their final destination. However, with modern air navigation systems being based on longitude and latitude readings, air routes are being more frequently defined by logical designated points, identified by a unique Five-Letter Name-Code (5LNC) and a longitude / latitude position (e.g. TULIP 52°22'N 3°51'E in the Netherlands).

The 5LNC codes are drawn from a set of pre-defined five letter combinations generated by ICAO and the FAA in the 1960's. This list was then split and distributed to the various ICAO Regional offices throughout the world. These reserve lists have since formed the base for 5LNC allocation by the ICAO Offices with the objective of world-wide unique allocation to enable unambiguous designation of significant points not linked to the site of a Radio Navigation Aid.

### ANNEX 11 APPENDIX 2.

#### Principles governing the establishment and identification of significant points

With reference to Amendment 45 to Annex 11, effective from the associated adoption date of 22 November 2007, airspace planners are reminded to adhere to the alteration to the governing ICAO provisions and refrain from relocating any waypoint without allocating it a new 5LNC as indicated in the extract below:

"The name-code designator assigned to a significant point shall not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator shall be chosen. In cases when a State wishes to keep the allocation of specific name-codes for re-use at a different location, such name-codes shall not be used until after a period of at least six months." (Chapter 2, Section 2.13, §3.4 refers)

#### The tool

Public users have access to a limited number of functionalities to query the content of the database maintained by the staff of the ICAO EUR/NAT office.

Only authorised users can make use of the application for reserving new codes from the reserve list of 140000 codes while ensuring worldwide uniqueness. They will receive acknowledgment of their request

Internet 100%

start | Inbox - Microsoft Out... | Missions - Microsoft I... | ICAO Secretariat - H... | EUROCONTROL - Fiv... | Microsoft PowerPoint ...

EN 3:25 PM

# Amendment Tool Template

## (To be deployed to all Regions Q209)



Microsoft Access - [Proposal for amendment]

File Edit Insert Records Window Help

ATS Routes CNS4 Table 5LNC **PFA** Created by PC Created on 06/10/04 Modified by A/M Modified on 17/11/04 States

04/ED

Print PFA List Print Cover File Delete PFA Add PFA Edit related items

Search : 04/ED-ATS

04/ED-ATS  
04/ARM2-ATS  
04/ARM-ATS  
04/36-EUR RAC/7 XC  
04/35-ATS XB  
04/34-ATS XA  
04/33-EUR RAC/6 WZ  
04/32-CNS WY  
04/31-CNS WX  
04/30-ATS WW  
04/29-ATS WV  
04/28-ATS WU  
04/27-ATS WT  
04/26-CNS WS  
04/25-ATS WR  
04/24-NAT RAC/5 WQ  
04/23-ATS WP  
04/22-AOP WO  
04/21-AOP WN  
04/20-AOP WM  
04/19-AOP WL  
04/18-ATFM WK  
04/17-EUR RAC/4 WJ  
04/16-MET WI  
04/15-MET WH  
04/14-ATS WG

Serial Number 04/ED Type of PFA ATS Brief Description Table CNS 4

Followed by F/S File ref

pc T 17/3.E/F

Date received: 06/10/04 Date of circulation revised:

SUPPS to HQ for comments: Closing date for com. revised:

Date of circulation: Date of submission to HQ:

Closing date for comments: Date of approval:

Notification to States: AHP Amdt No: Draft

Status  
Proposal Approved  
Approved on  
Approved by

PFA Items :  
ATS1 (Editorial)  
G41  
UM30  
UM190  
UN872  
UP177  
R42  
R107  
CNS4  
Aviles/Asturias --> Asturias

Comments :

Originated by : Spain

Circulated to :

PFA Files:

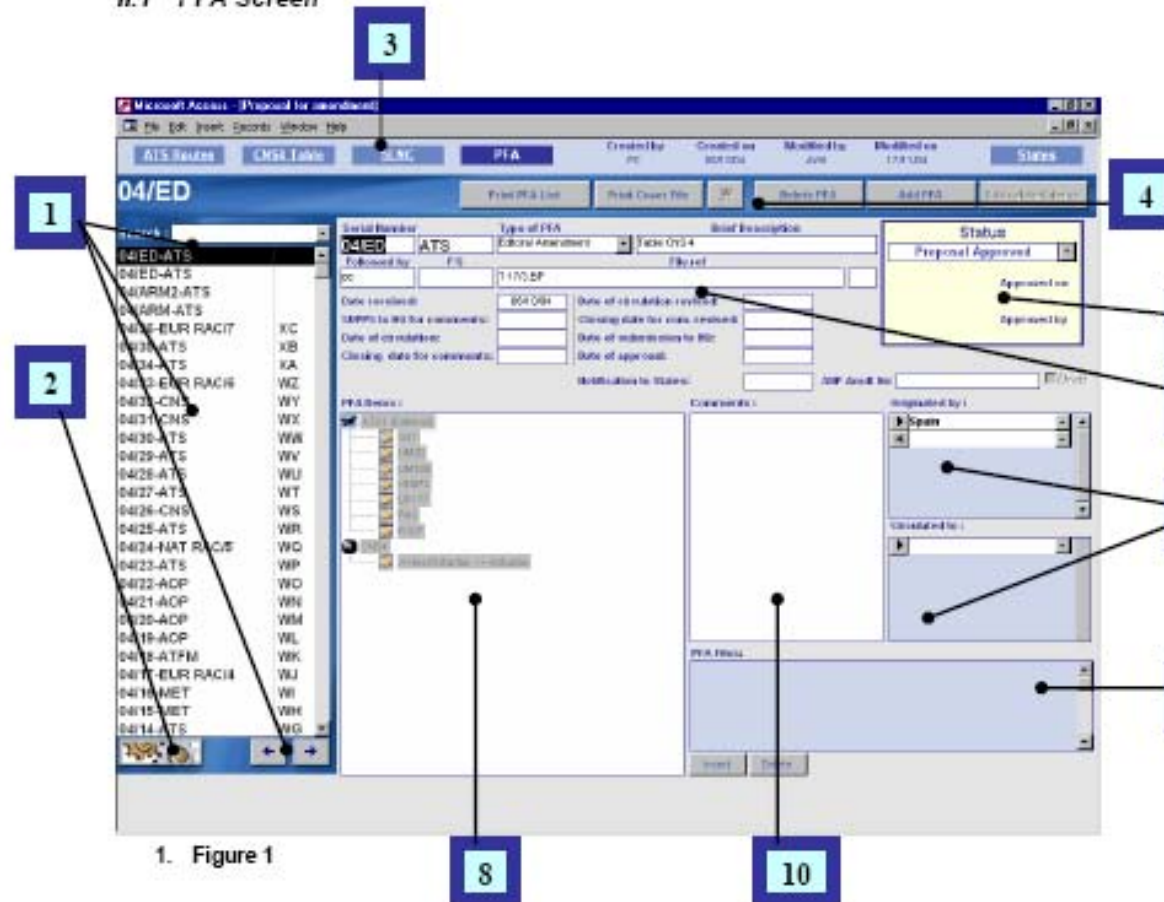
Insert Delete

# Proposal for Amendment (PFA)



## II. Proposal for Amendment

### II.1 PFA Screen



1. Figure 1

1. Navigation Controls.
2. Toggle button: display PFA in progress only or all PFA.
3. Navigation links between each component.
4. Command buttons.
  - o *Print PFA List*: Print List of PFA in progress in Word
  - o *Print File Cover*: print the file cover sheet of the PFA displayed
  - o *Print*: Print the PFA in Word.
  - o *Delete PFA*: Delete PFA displayed
  - o *Add PFA*: Create a new PFA.
  - o *Edit related items*: Open the window for editing ATS1/CNS4 amendments.
5. Status: Show the PFA Status.
6. PFA Information.
7. List of States: show originators of this amendment and State(s) which are to be consulted.
8. Lists ATS1 or CNS4 items that are amended in PFA concerned.
9. Links to Word files related to PFA.
10. Comments on process of development of PFA.

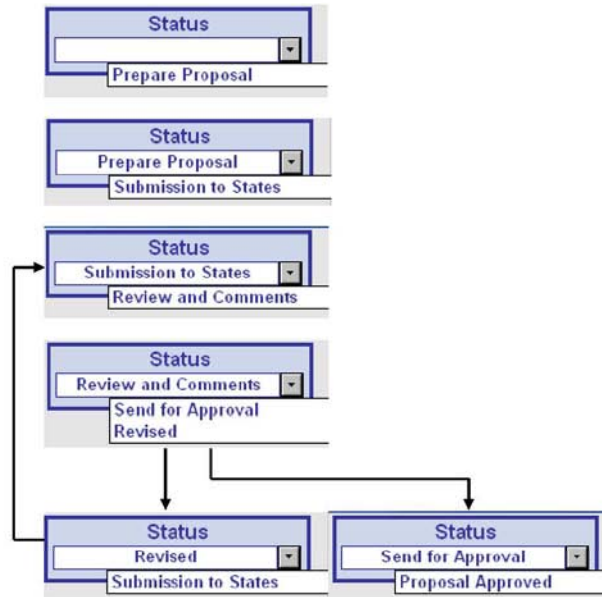


# PFA Actions Status

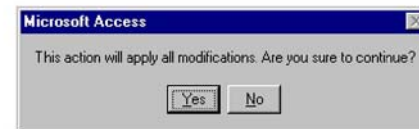


## II.4 Use PFA Status

You can select a status in the list "Status" (see Figure 1 mark n°5). The statuses you can select depend on the previous status.



After selecting "Proposal Approved" the following message will be displayed



If you click "No" the status become "Send for approval". If you click "Yes" all PFA changes (for ATS1 Amendment, CNS4 Amendment and Editorial Amendment) will be integrate into ARN Data. And the Status becomes as figure below.

| Status                  |
|-------------------------|
| Proposal Approved       |
| Approved on<br>13/10/04 |
| Approved by<br>PC       |



# On-Line MET data maintenance

<http://192.206.28.84/MET/>



## ICAO MET Data

### Global Air Navigation Plan

[Login](#)

Overview
Browse
Map Server
Report ▼
Reference ▼

**Region** ASIAPAC ▼
**State** Thailand ▼

**Meteorology Database**  
 Planning MET1A & MET2A

| Aerodrome ICAO Location Indicator           | Aerodrome Use                               | Responsible MET Office - ICAO Location Indicator | In MET1A                            | In MET2A                            | TR                                  | SA/SP                               | For                                 |
|---|---|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input style="width: 50px;" type="text"/> ▼ | <input style="width: 50px;" type="text"/> ▼ | <input style="width: 50px;" type="text"/> ▼      | <input type="checkbox"/> ▼          | <input type="checkbox"/> ▼          | <input type="checkbox"/> ▼          | <input type="checkbox"/> ▼          |                                     |
| VTBA  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBB  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBC  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBD  | RS  | VTBS   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| VTBE  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBF  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBH  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBI  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBK  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| VTBL  |   |  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |

Change page: < 1 2 3 4 5 6 7 > | Displaying page 1 of 7, items 1 to 10 of 68.

# CNS/AIRS VHF COM FREQUENCY ASSIGNMENT PLANNING



- CNS/AIRS VHF COM provides a program that can be used for frequency assignment planning and frequency coordination.
  - ✓ The program is based on the frequency assignment planning criteria that are currently being used in the ICAO Regional Offices.
- The CNS/AIRS VHF COM is using a global data base, which has been established in 2008 on the basis of the various Regional ICAO COMLIST 3 (COM List 2 for the EUR Region).
  - ✓ The global data base will facilitate interregional coordination.
  - ✓ In order to achieve the global data base, the information currently contained in the various Regional COM lists has been harmonized.
  - ✓ Where appropriate, changes to the presentation of information in the global list have been identified for further consideration by the Regional Offices.
  - ✓ In the final format of the program, the ICAO Global COM list will reside on the ICAO website, accessible to all ICAO Contracting States.
  - ✓ Updating of the Global COM list will take place through the ICAO Regional Offices.
  - ✓ States can access the information in the data base for planning and coordination activities.

# VHF COM Frequency Assignment Planning Functions



## → Data base.

- ✓ The program will allow the user to query the data base, select assignments for individual countries, Regions, locations, services and frequencies.
- ✓ The results of the query can be saved and retrieved for later consideration.
- ✓ The results of the query can be printed, in the format of the ICAO COM list, directly from the program or exported to Microsoft Excel or Adobe PDF files.

## → GIS Interface.

- ✓ The results of the query can be plotted on a geographical map. Current provision includes the use of Google Earth.
- ✓ Presentation on a map includes the plotting of the coordinated range for assigned frequencies as well as the plotting of the operational range AND the interference contour (radio horizon seen from the aircraft at maximum altitude and maximum range..)
  - *Note 1: Co-frequency assignments are compatible if the interference contours do not overlap with each other).*
  - *Note 2: The use of other programs than Google Earth that can plot the data of an assignment on different types of maps is being considered*

## → Calculation of the protection offered.

- ✓ Introduction of an additional program that will allow for the calculation of the protection offered, in particular for new assignments is being considered.
- ✓ Such a program, when available, would allow the user to select from the calculated results frequencies for, in particular, new assignments. It would also facilitate assessment of existing incompatibilities.

# VHF COM Frequency Assignment Planning Functions - Database



FileMaker Pro Advanced - [CNS\_AIRS-COM]

File Edit View Insert Format Records Scripts Tools Window Help

Browse Layout: AFIAPAC

Record: 1  
Total: 19865  
Unsorted

QUERY/FIND

REGION: MID Status: N

COUNTRY: AFGHANISTAN

FREQUENCY: 118.100 Country code: AFG

NAME location: BAMAYAN

SERVICE: FIS-U

Perform find records found: 19865 Reg: 19969

FIR: FIR ACCRA

Mapping Frequency/GoogleEarth

DOC: FIR-U/450 Active Record Active Selection

Range: FIR MAP RANGE MAP RANGE

Height: 45000 MAP RANGE+RH MAP RANGE+RH

Radio Horizon: 261

Category: NAT

Condition: OP

Entry: ADJ RANGE

Modification: 11/07/03.LIPENG

Remark: Remark\_CNS

Coordinates

Lat: 00D00'00" N

Dec.lat: 0

Long: 00D00'00" E

Dec.long: 0

Base layers 2008

Fir world ICAO

Fir sector world

COM world

Aero world

Route AFI

Route MID

Route ASIA PAC

Route CARSAM

Route EUR

Click to see more information for a record

CNS/AIRS Very High Frequency communications tool version 2.06 VHF A/G

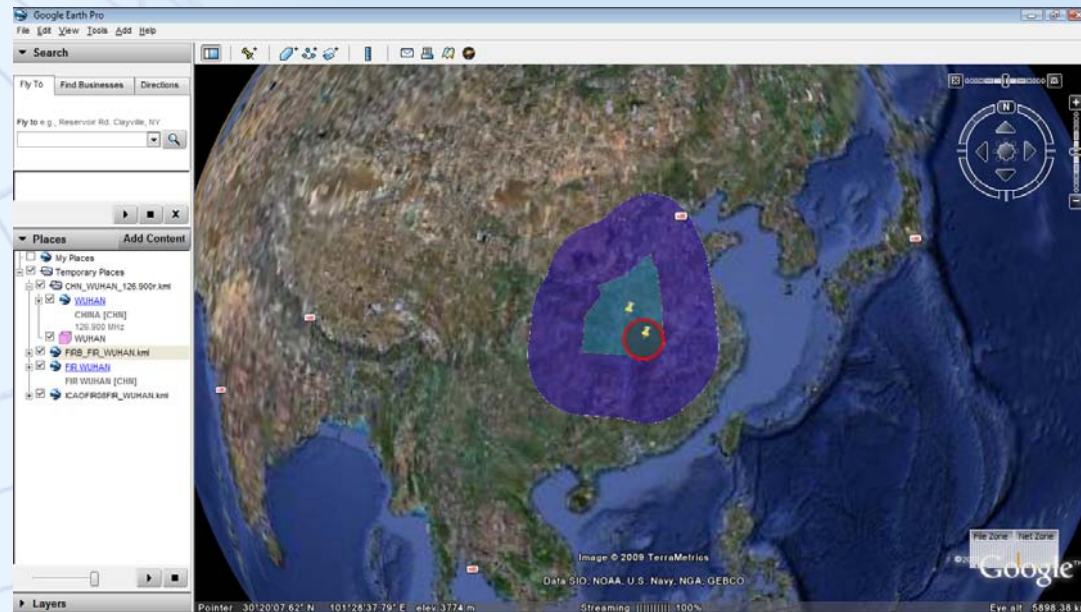
NUM

## → Data base.

- ✓ The program will allow the user to query the data base, select assignments for individual countries, Regions, locations, services and frequencies.
- ✓ The results of the query can be saved and retrieved for later consideration.
- ✓ The results of the query can be printed, in the format of the ICAO COM list, directly from the program or exported to Microsoft Excel or Adobe PDF files.



# VHF COM Frequency Assignment Planning Functions –GIS Interface



## → GIS Interface.

- ✓ The results of the query can be plotted on a geographical map. Current provision includes the use of Google Earth.
- ✓ Presentation on a map includes the plotting of the coordinated range for assigned frequencies as well as the plotting of the operational range AND the interference contour (radio horizon seen from the aircraft at maximum altitude and maximum range..)
  - Note 1: Co-frequency assignments are compatible if the interference contours do not overlap with each other).
  - Note 2: The use of other programs than Google Earth that can plot the data of an assignment on different types of maps is being considered



# ICAO CNS/AIRS Portal

<http://192.206.28.81/eganp/>



Google product

- [Download Google Earth eANP](#)
- [Download KML2SHP](#)
- [Download GEPATH](#)
- [Download Google Earth plug in](#)
- [Google Earth API](#)
- [Try API Examples](#)

ICAO eANP Route ICAO eANP REGION ICAO eANP WORLD ICAO eANP Special GeoPDF product

ICAO GIS Portal CNS/AIRS eANP

IMSOM CBNB ASPIK GERAK South Africa

## Welcome to ICAO CNS/AIRS PORTAL

**NEW!** Created with ArcGIS Server 9.3

New ICAO GIS Web Server will be use for the support of the new eANP, will be in direct relation with all the new technology (eANP cdrom with GeoPDF, Data base support, ArcReader, ArcGIS Explorer, ArcGIS Server 9.3, Google Earth 3d, Google Earth plug-in) to facilitate all users for his work in the Air Navigation Plan or other task.

 **GeoPDF product:**

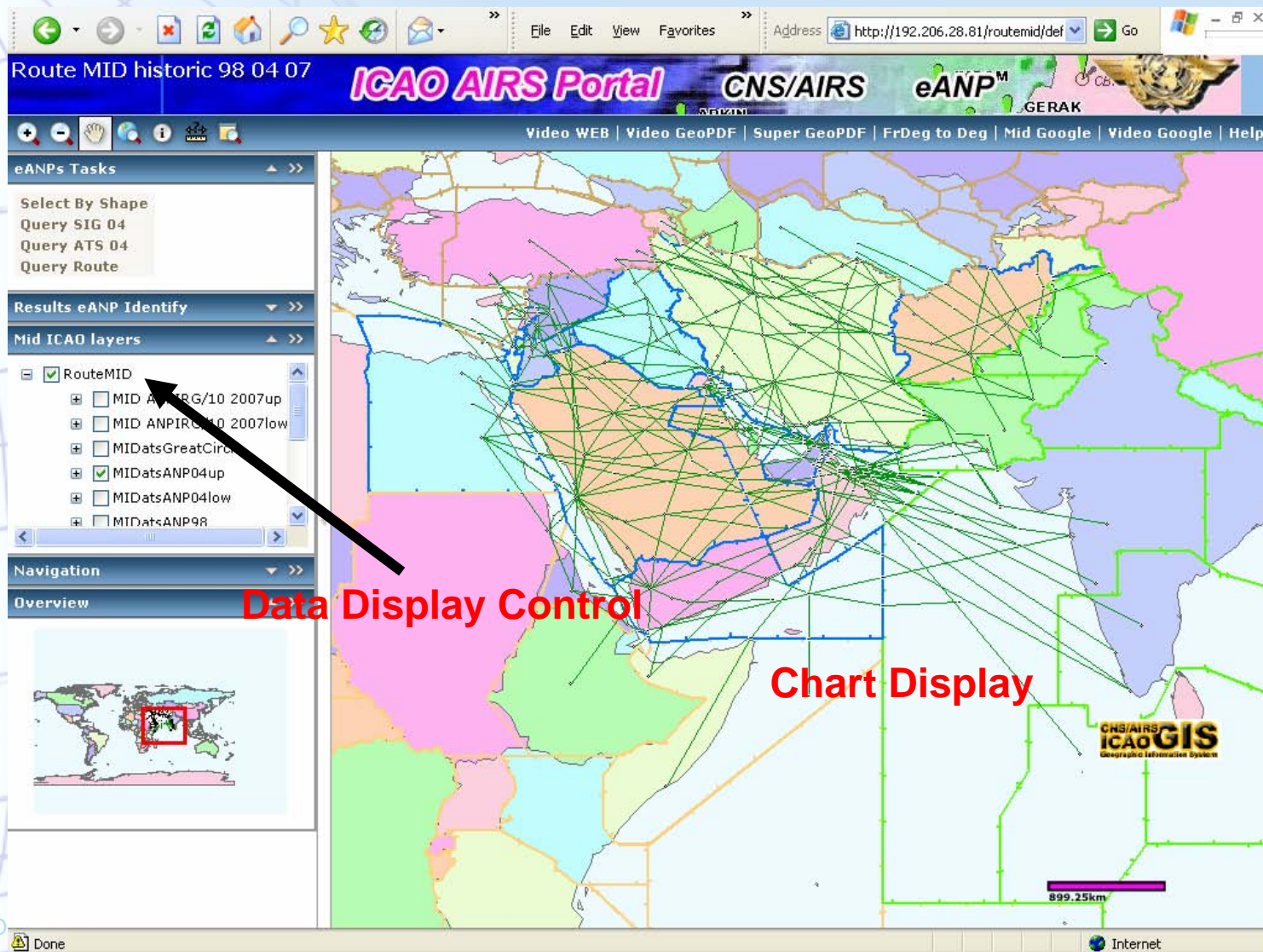
**ICAO eANP Download ICAO Geopdf eANP file to work on your computer**

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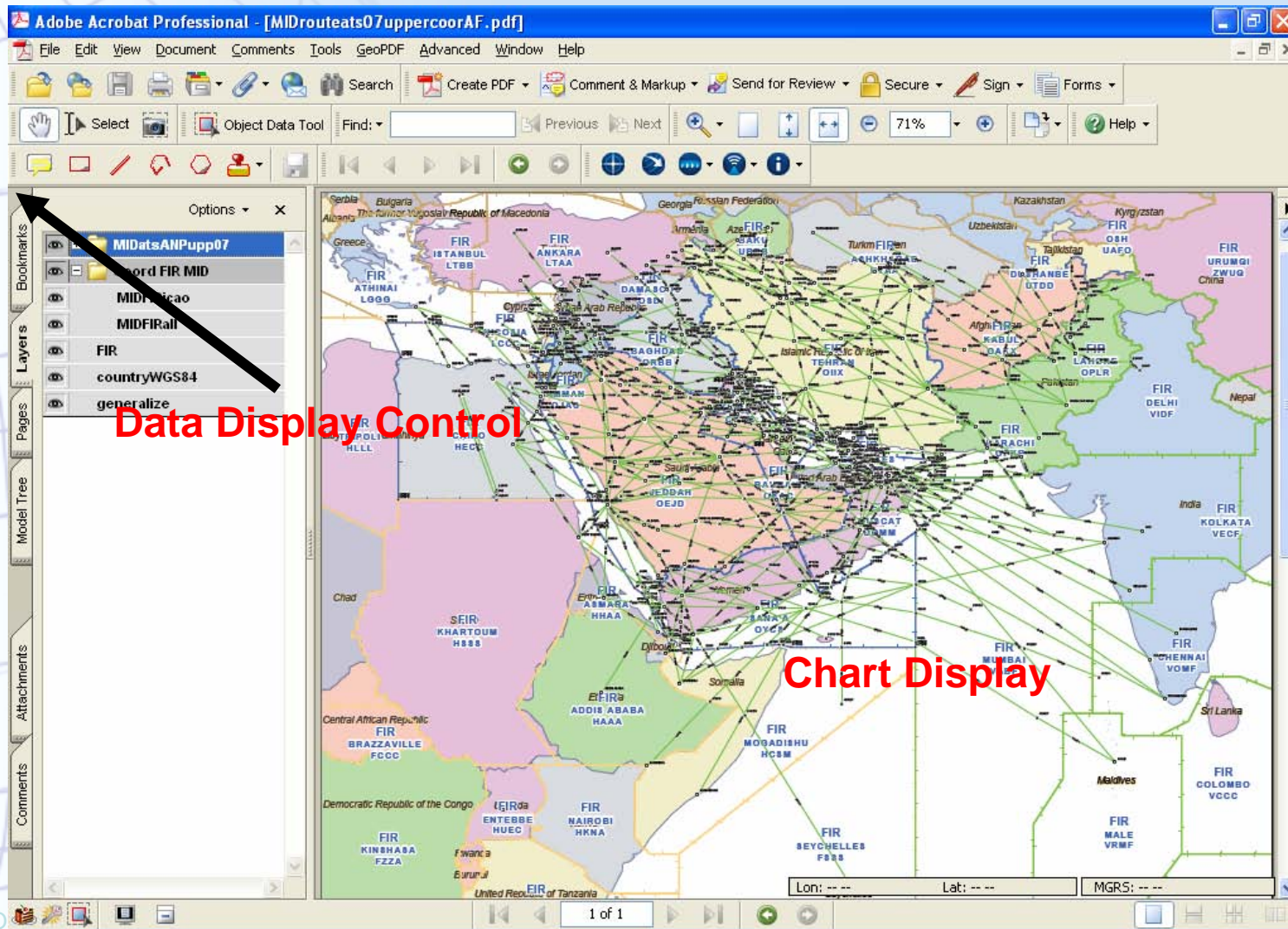
**ICAO Arctic Circle Project Download ICAO Arctic Circle Geopdf file to work on your computer**



# ArcGIS Server On-line Format



# GeoPDF Standalone Format





# PBN: Public users access



Performance-Based Navigation - Microsoft Internet Explorer provided by ICAO ICT

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ICAO • OACI • ИКАО  
國際民航組織 • 國際民航組織

International Civil Aviation Organization

### ICAO PERFORMANCE BASED NAVIGATION (PBN) PROGRAMME

[Login](#)

Overview Browse Map Report Reference

Type of Region: ICAORO  
Region: AFI

Country list (left sidebar):  
Afghanistan  
Algeria  
  DAAAG  
  DAAAF  
  DFFFF  
Angola  
Ascension I.  
Benin  
Botswana  
British Indian Ocean Territory  
Burkina Faso  
Burundi  
Cameroon  
Canary Islands  
Cape Verde  
Central African Republic  
Chad  
Comoros  
Congo  
Côte d'Ivoire  
Democratic Republic of the Congo  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia  
Ghana  
Guinea  
Guinea-Bissau  
Kenya  
Lesotho  
Liberia  
Libyan Arab Jamahiriya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger

#### Airports

| ICAO LocIndic | Intl                                | IATA Code |
|---------------|-------------------------------------|-----------|
| DFFF          | <input checked="" type="checkbox"/> | FFF       |

#### Runways

| RwyInfo | Instrument                          |
|---------|-------------------------------------|
| 23L     | <input checked="" type="checkbox"/> |
| SR      | <input type="checkbox"/>            |

#### Approach

| EffectiveDate | Comments | Restrictions | Approach Type | Line Of Minima | Decimal |
|---------------|----------|--------------|---------------|----------------|---------|
| 13/01/2009    | t        | y            | LPV200        | RNP0.2x        | 3       |
| 04/11/2008    | b        | n            | RNP-AR-APCH   |                |         |

#### SID

| Name            | EffectiveDate | Description   | SID Type    |
|-----------------|---------------|---------------|-------------|
| 23L-SID-01-2000 | 11/01/2000    | Good weather  | Basic RNP 1 |
| 23L-SID-02-2005 | 06/03/2005    | Bad weather 1 | Basic RNP 1 |

#### STAR

| Name       | EffectiveDate | Description    | STAR Type   |
|------------|---------------|----------------|-------------|
| 23L-STAR   | 13/02/2008    | 23L-STAR Desc. | Basic RNP 1 |
| 23L-STAR 2 | 12/11/2008    | Global         | RNAV        |
| 23L-All    | 17/11/2008    | r 2            | Basic RNP 1 |

Done Internet

# PBN: Authorized users access



http://192.206.28.84 - Performance-Based Navigation - Microsoft Internet Explorer provided by ICAO ICT

File Edit View Favorites Tools Help

ICAO - OACI - ICAO  
International Civil Aviation Organization

### ICAO PERFORMANCE BASED NAVIGATION (PBN) PROGRAMME

Welcome dvanness [Logout](#)

Overview Browse Map Report Reference

Type of Region: ICAORO  
Region: AFI

Country list: Afghanistan, Algeria (DAAAG, DAAAF, DFFF), Angola, Ascension I., Benin, Botswana, British Indian Ocean Territory, Burkina Faso, Burundi, Cameroon, Canary Islands, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger

#### Airports

| ICAO LocIndic | Intl                                | IATACode |
|---------------|-------------------------------------|----------|
| DFFF          | <input checked="" type="checkbox"/> | FFF      |

[Add new record](#) [Refresh](#)

#### Runways

| RwyNo | Instrument                          |
|-------|-------------------------------------|
| 23L   | <input checked="" type="checkbox"/> |
| SR    | <input type="checkbox"/>            |

[Add new record](#) [Refresh](#)

#### Approach

| EffectiveDate | Comments | Restrictions | Approach Type | Line Of Minima | Decimal |
|---------------|----------|--------------|---------------|----------------|---------|
| 13/01/2009    | t        | y            | LPV200        | RNP0.2x        | 3       |
| 04/11/2008    | b        | n            | RNP-AR-APCH   |                |         |

[Add new record](#) [Refresh](#)

#### SID

| Name            | EffectiveDate | Description   | SID Type    | Link/Unlink SID to Rwy |
|-----------------|---------------|---------------|-------------|------------------------|
| 23L-SID-01-2000 | 11/01/2000    | Good weather  | Basic RNP 1 | ∞ SID to Rwy           |
| 23L-SID-02-2005 | 06/03/2005    | Bad weather 1 | Basic RNP 1 | ∞ SID to Rwy           |

[Add new record](#) [Refresh](#)

#### STAR

| Name       | EffectiveDate | Description    | STAR Type   | Link/Unlink STAR to Rwy | Link/Unlink STAR to Airport |
|------------|---------------|----------------|-------------|-------------------------|-----------------------------|
| 23L-STAR   | 13/02/2008    | 23L-STAR Desc. | Basic RNP 1 | ∞ STAR to Rwy           | ∞ STAR to Airport           |
| 23L-STAR 2 | 12/11/2008    | Global         | RNAV        | ∞ STAR to Rwy           | ∞ STAR to Airport           |
| 23L-All    | 17/11/2008    | r 2            | Basic RNP 1 | ∞ STAR to Rwy           | ∞ STAR to Airport           |

[Add new record](#) [Refresh](#)

Done Internet



# PBN: Implementation Details Report



http://192.206.28.84 - Performance-Based Navigation - Report Viewer - Microsoft Internet Explorer provided by ICAO ICT

File Edit View Favorites Tools Help

ICAO - OACI - ИКАО  
International Civil Aviation Organization

ICAO PERFORMANCE BASED NAVIGATION (PBN) PROGRAMME

Login

Overview Browse Map Report Reference

1 of 2 100% Export to the selected format Export

International Civil Aviation Organization - Performance Based Navigation (PBN) - Implementation Details per Region

## PBN Implementation Details

ICAO Region: **AFI**

| Country | ICAO DESIG | Intl                     | Runway | Inst                                |
|---------|------------|--------------------------|--------|-------------------------------------|
| Algeria | DAAG       | <input type="checkbox"/> | 34L    | <input checked="" type="checkbox"/> |

**SID Details**

| Name    | Effective Date         | Description     | Type |
|---------|------------------------|-----------------|------|
| 34L SID | 01/01/2010 12:00:00 AM | 34L SID In-proc | RNAV |

**STAR Details**

| Name     | Effective Date         | Description | Type |
|----------|------------------------|-------------|------|
| 34L STAR | 01/01/2010 12:00:00 AM | 34L STAR 1  | RNAV |

DFFF ☒ 23L ☒

**Approach Details**

| Approach Type | Effective Date | Restrictions | Comments | Line of Minima Type | Decimal |
|---------------|----------------|--------------|----------|---------------------|---------|
| LPV200        | 13/01/2009     | y            | t        | RNP0.2x             | 3       |
| RNP-AR-APCH   | 04/11/2008     | n            | b        | RNP0.3              |         |

**SID Details**

| Name            | Effective Date         | Description   | Type        |
|-----------------|------------------------|---------------|-------------|
| 23L-SID-01-2000 | 11/01/2000 12:00:00 AM | Good weather  | Basic RNP 1 |
| 23L-SID-02-2005 | 06/03/2005 12:00:00 AM | Bad weather 1 | Basic RNP 1 |

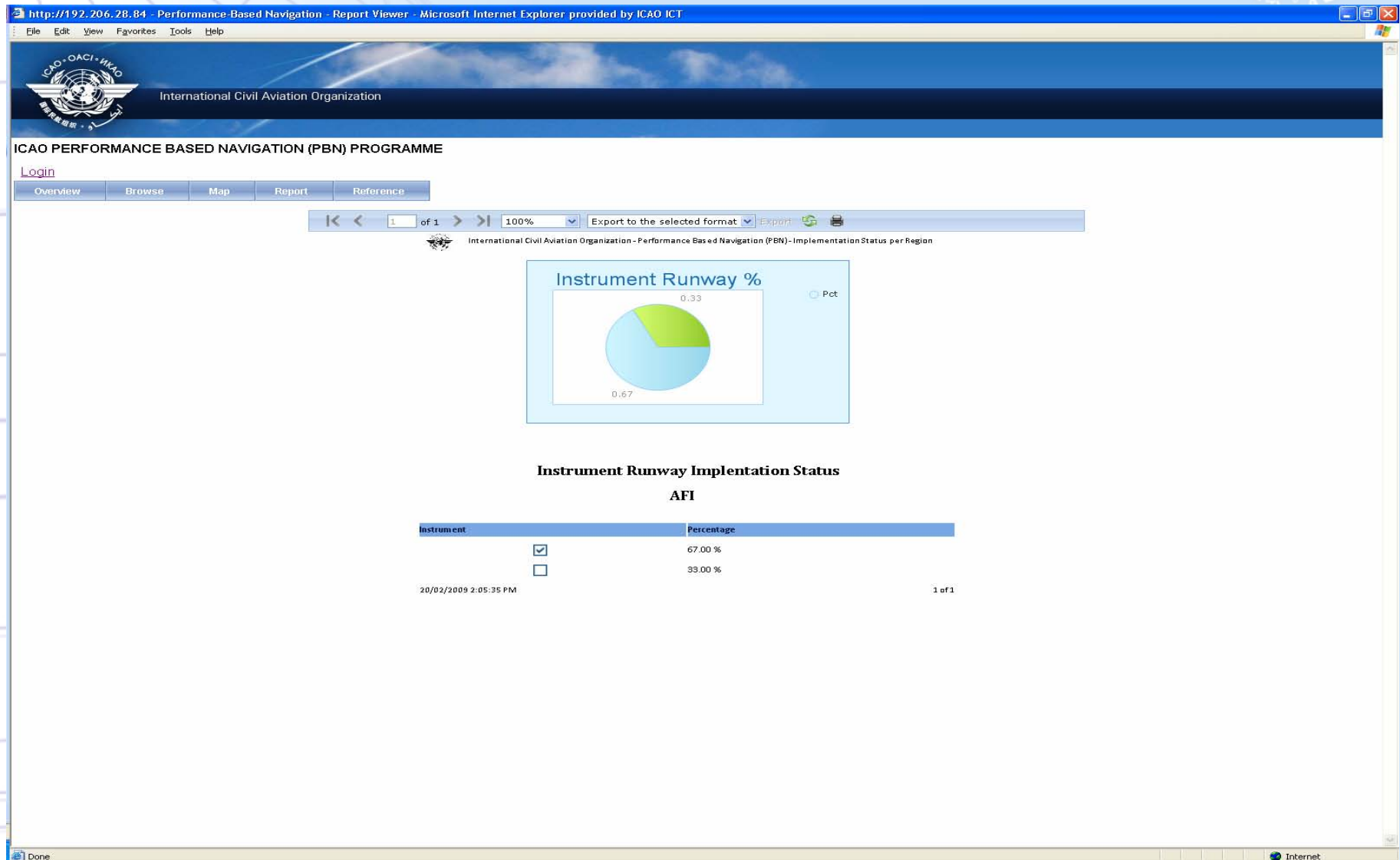
**STAR Details**

| Name       | Effective Date         | Description    | Type        |
|------------|------------------------|----------------|-------------|
| 23L-STAR   | 13/02/2008 12:00:00 AM | 23L-STAR Desc. | Basic RNP 1 |
| 23L-STAR 2 | 12/11/2008 12:00:00 AM | Global         | RNAV        |
| 23L-AII    | 17/11/2008 12:00:00 AM | r 2            | Basic RNP 1 |

20/02/2009 2:04:51 PM 1 of 2

Done Internet

# PBN: % of Implementation Report



# WGS-84 search function



WGS-84 Web interface Overview specific search

**Search WGS-84 country**

**Select your value in the drop down menu**

If layers have a plus button next to the name, you can expand the layer to display a **legend** for the layer

The screenshot shows the WGS-84 Web interface in a Microsoft Internet Explorer browser. The address bar displays 'http://192.206.28.81/wgs84status/default.aspx - Microsoft Internet Explorer provided by ICAO ICT'. The page title is 'WGS-84 Web interface Overview specific search'. The main content area features a search bar with the text 'Search WGS84 country' and a dropdown menu showing a list of countries, with 'Afghanistan' selected. A yellow callout box points to the dropdown menu with the text 'Select your value in the drop down menu'. Another yellow callout box points to the search bar with the text 'Search WGS-84 country'. A third yellow callout box points to the 'Map Contents' panel on the left, which lists various layers with plus buttons next to their names. A yellow callout box points to the 'Map Contents' panel with the text 'If layers have a plus button next to the name, you can expand the layer to display a legend for the layer'. The map shows a world map with regions color-coded: green for 'Fully implemented', orange for 'Partly implemented', and white for 'Not implemented'. A legend at the bottom of the map area explains the color coding: 'Legend: F: Fully implemented P: Partly implemented N: Not implemented'. The map also includes a scale bar (0 to 920 Miles) and the text 'ICAO Copyright'.



# WGS-84 search function



WGS-84 Web interface Overview specific search

**Search country implemented**

**Type your value and click**

**Select Print Status of WGS84 to obtain a report of your research**

WGS-84 status/default.aspx - Microsoft Internet Explorer provided by ICAO ICT

Address: http://192.206.28.81/wgs84status/default.aspx

WORLD ICAO STATUS OF IMPLEMENTATION

Editor | Print Status of WGS84 | Search WGS84 country | Search Country implementation

Results

☒ Search Country implementation (106)

☒ Editor tool WGS84 (106)

Records 1 - 25 of 106

- ☒ Finland
- ☒ Latvia
- ☒ Denmark
- ☒ Lithuania
- ☒ Canada
- ☒ Germany
- ☒ Netherlands
- ☒ Poland
- ☒ Belgium
- ☒ Czech Republic
- ☒ Mongolia
- ☒ Luxembourg
- ☒ Slovakia
- ☒ Austria
- ☒ Switzerland
- ☒ Italy
- ☒ Slovenia
- ☒ Hungary
- ☒ France
- ☒ Romania
- ☒ Monaco
- ☒ Spain
- ☒ Georgia
- ☒ Portugal
- ☒ Turkey

Map Contents

- ☒ WGS84status
- ☒ WGS84 layers

950475 0 950 Miles ICAO Copyright

JavaScript: showFloatingPanel("TaskManager1\_QueryAttributesTask4")

Internet

674 WGS84 | Historic AIS-5 tables | Web Tools Help

Close

Search Country implementation

Status of WGS-84 country (0 to 100) type 100 for Fully implemented and 0 for no d

Use the EDITING tool to ENTER your status in the geographic data base (Select Editor in the main menu):

**STATUS OF IMPLEMENTATION OF WGS-84 IN THE WORLD**

to view the detail status:

implemented P: Partly implemented N: Not implemented

GNS/AIRS ICAO GIS Geographic Information System

# WGS-84 Status Form Editor



WGS-84 Web interface

http://192.206.28.81/wgs84status/default.aspx - Microsoft Internet Explorer provided by ICAO ICT

Address http://192.206.28.81/wgs84status/default.aspx

WORLD ICAO STATUS OF IMPLEMENTATION OF WGS84 (edition website)

Editor | Print Status of WGS84 | Search WGS84 country | Search Country implementation

Results

Map Contents

- ☒ WGS84status
  - ☒ WGS84 layers
  - ☒ ICAO base layers
  - ☒ Editor tool WGS84
  - ☐ WGS84 present viewer

Map

Editor

Edit: Editor tool WGS84

Create Editor tool WGS84

Edit Editor tool WGS84

Edit Editor tool WGS84 Attributes

Editor tool WGS84 /6

ICAOSYS Sudan

WGS84STATU 0

FIR

ENR

TMACTACTZ

APP

Settings

58.675, 7.01

Internet

## CLEAN EXAMPLE FOR SUDAN

You complete the Data for WGS84 STATUS: Estimate the percentage of your implementation: here **0?**  
After you fill the others fields like FIR with **F**, ENR with **F**, TMACTACTZ with **P**, APP with **N**, make the same for the others fields, for the field implemented by: You put **your name**, for the field Date: You put **the Date** you fill this form, fill the field Remark : If you have...

Remember the legend:  
**F**: Fully implemented  
**P**: Partly implemented  
**N**: Not implemented



# WGS-84 Print and Report function



**Print  
Results  
Only  
(with map)**

Status of WGS84 implementation - Windows Internet Explorer

File Edit View Favorites Tools Help

★ ☆ ↻ ↺ ⌂ Page Tools ?

## Status of WGS84 implementation

Colombia (Editor tool WGS84)

ICAO region ANP

- ☐ AFI
- ☐ ASIA
- ☐ CAR
- ☐ EUR
- ☐ MID
- ☐ NAM
- ☐ NAT

ICAO region ANP (continued)

- ☐ NIL
- ☐ PAC
- ☐ SAM

ICAO FIR

- ☐ MID
- ☐ AFI
- ☐ ASIA
- ☐ CARSAM
- ☐ EUR

ICAO FIR (continued)

- ☐ NAM
- ☐ NAT
- ☐ NIL

Editor tool WGS84

- ☐ 0
- ☐ 1 - 10
- ☐ 11 - 20
- ☐ 21 - 30
- ☐ 31 - 40
- ☐ 41 - 50
- ☐ 51 - 60

Editor tool WGS84 (continued)

- ☐ 61 - 70
- ☐ 71 - 90
- ☐ 91 - 100

Colombia (Editor tool WGS84) -71.921, 3.119 (1)

Colombia (Editor tool WGS84) (1)

| OBJECTID | FIPS_CNTRY | REGOFF | REGION | ICAOSTATE | ICAO SYS | WGS84STATU   | FIR ENR | TMACTACTZ | APP | RWY | AD_HEL | GUND | QUALSYS | AIP | REMARKS | IMPLEM_BY | WGS84DATE | Display Field |
|----------|------------|--------|--------|-----------|----------|--------------|---------|-----------|-----|-----|--------|------|---------|-----|---------|-----------|-----------|---------------|
| 143      | CO         |        | LIMA   | CARSAM    | Colombia | Colombia 100 |         |           |     |     |        |      |         |     |         |           | Null      | Colombia      |

ICAO Copyright  
ICAO Copyright  
part of eANP  
CNS/AIRS

http://192.206.28.81 - Status of WGS84 implementation - Microsoft Internet Explorer provided by ICAO ICT

File
Edit
View
Favorites
Tools
Help

Back
Forward
Stop
Home
Search
Favorites

SnagIt

## Status of WGS84 implementation

Search Country implementation (106)

Editor tool WGS84 (106)

| OBJECTID | FIPS_CNTRY | REGOFFI | REGION  | ICAOSTATE            | ICAO SYS             | WGS84STATUS | FIR | ENR | TMACTACTZ | APP | RWY | AD_HEL | GUND | QUALSYS | AIP | REMARKS | IMPLEN_BY             | WGS84DATE |
|----------|------------|---------|---------|----------------------|----------------------|-------------|-----|-----|-----------|-----|-----|--------|------|---------|-----|---------|-----------------------|-----------|
| 1        | FI         | PARIS   | EUR     | Finland              | Finland              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 2        | LG         | PARIS   | EUR     | Latvia               | Latvia               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 3        | DA         | PARIS   | EUR     | Denmark              | Denmark              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 4        | LH         | PARIS   | EUR     | Lithuania            | Lithuania            | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 6        | CA         | MEXICO  | NAM     | Canada               | Canada               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 7        | GM         | PARIS   | EUR     | Germany              | Germany              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 8        | NL         | PARIS   | EUR     | Netherlands          | Netherlands          | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 10       | PL         | PARIS   | EUR     | Poland               | Poland               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 11       | BE         | PARIS   | EUR     | Belgium              | Belgium              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 12       | EZ         | PARIS   | EUR     | Czech Republic       | Czech Republic       | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 13       | MG         | BANGKOK | ASIAPAC | Mongolia             | Mongolia             | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 14       | LU         | PARIS   | EUR     | Luxembourg           | Luxembourg           | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 17       | LO         | PARIS   | EUR     | Slovakia             | Slovakia             | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 18       | AU         | PARIS   | EUR     | Austria              | Austria              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 19       | SZ         | PARIS   | EUR     | Switzerland          | Switzerland          | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 21       | IT         | PARIS   | EUR     | Italy                | Italy                | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 22       | SI         | PARIS   | EUR     | Slovenia             | Slovenia             | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 23       | HU         | PARIS   | EUR     | Hungary              | Hungary              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 24       | FR         | PARIS   | EUR     | France               | France               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 25       | RO         | PARIS   | EUR     | Romania              | Romania              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 27       | MN         | PARIS   | EUR     | Monaco               | Monaco               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 28       | SP         | PARIS   | EUR     | Spain                | Spain                | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 29       | GG         | PARIS   | EUR     | Georgia              | Georgia              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 42       | PO         | PARIS   | EUR     | Portugal             | Portugal             | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 44       | TU         | PARIS   | EUR     | Turkey               | Turkey               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 49       | GI         | PARIS   | EUR     | Gibraltar (U.K.)     | Gibraltar (U.K.)     | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 50       | LE         | CAIRO   | MID     | Lebanon              | Lebanon              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 51       | AG         | PARIS   | AFI     | Algeria              | Algeria              | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 56       | SA         | CAIRO   | MID     | Saudi Arabia         | Saudi Arabia         | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 59       | EG         | CAIRO   | MIDAFI  | Egypt                | Egypt                | 100         | F   | F   | F         | F   | F   | F      | F    | F       | F   | Gilbert | 11/2/2009 12:00:00 AM |           |
| 61       | JO         | CAIRO   | MID     | Jordan               | Jordan               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 62       | KU         | CAIRO   | MID     | Kuwait               | Kuwait               | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 64       | NP         | BANGKOK | ASIAPAC | Nepal                | Nepal                | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 67       | QA         | CAIRO   | MID     | Qatar                | Qatar                | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |
| 68       | AE         | CAIRO   | MID     | United Arab Emirates | United Arab Emirates | 100         |     |     |           |     |     |        |      |         |     |         |                       |           |

Done

Internet

# Summary



- The eANP framework is an evolving effort.
  - ✓ Requires data to be maintained locally to be managed globally
- A number of tools are available today
- A number of tools will be deployed in the near term
- Transition to an electronic version of the Regional Air Navigation Plans pends the finalization of the supporting HW and SW selection.
  - ✓ PDF versions are an interim solution
  - ✓ The PFA tool will support an automated amendment process and approval archive
- As stakeholders in the effort your support and comments are welcomed.