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UNITING AVIATION

AIS-AIM Study Group Working Status

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TO/AIM

ICAO AFI Region Seminar on Transition to AIM: Phase 1 to 3.
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8 November 2013



Outline

- Review and status of current work
- Annex vs PANS
- Annex 15 : Chapter 4, Chapter 5, Chapter 6
- PANS-AIM
- Guidance material
- Summary





Review and status of current work

- The major outcome is represented by the finalization of the 14th edition of Annex 15 that will be applicable on the 14th of November 2013. It was also noted that a corrigendum will be issued in relation to the following topics: Restoring the use of the use of the “O” qualifier in conjunction “B” and “NB” and removing instances of numeric integrity values that were not completely deleted in Appendix 7
- The work plan of the AIS-AIM Study Group was reviewed with particular attention given to Amendment 38 to Annex 15 and PANS-AIM. The meeting confirmed that it would have as an objective a planned applicability date for the new amendment to Annex 15 to be November 2016, but that the actual date may be delayed considering the effort still required to produce a mature proposal
- The focus of the meeting was the preparation of the three new chapters for Annex 15 (Chapter 4, 5, 6) and the PANS AIM



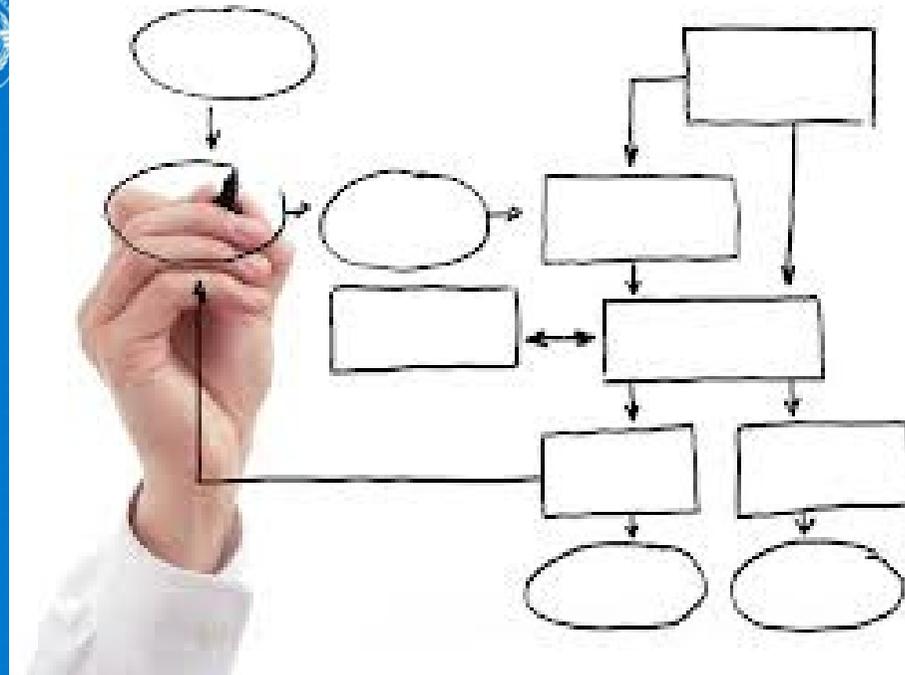
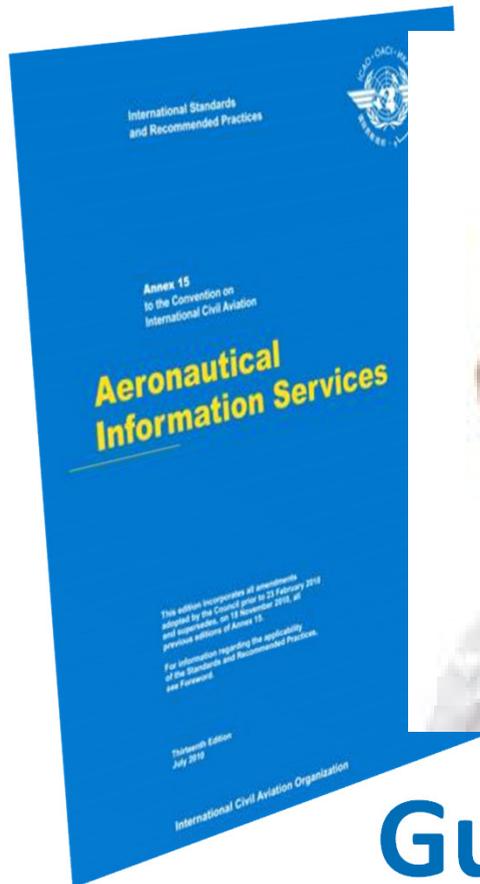
Annex vs PANS

Document	Function and Content	Primary Audience
Annex 15	Requirements and performance specifications	States
PANS-AIM	Procedures, processes, formats, technical specifications	States and service delivery organizations
AIS (AIM) Manual	Best practices; guidance on application and implementation	Service delivery organizations

- Proposal to develop a new document, PANS-AIM, which would span the gap between the guidance contained in Doc 8126 and the SARPs embodied in Annex 15.
- Specifications published as Procedures for Air Navigation Services (PANS) may provide a means to provide for increased harmonisation within the domain of AIS/AIM as well as provide a vehicle for the emerging technical requirements of AIM.



Annex 15 – Chapter 4



Guiding Principles



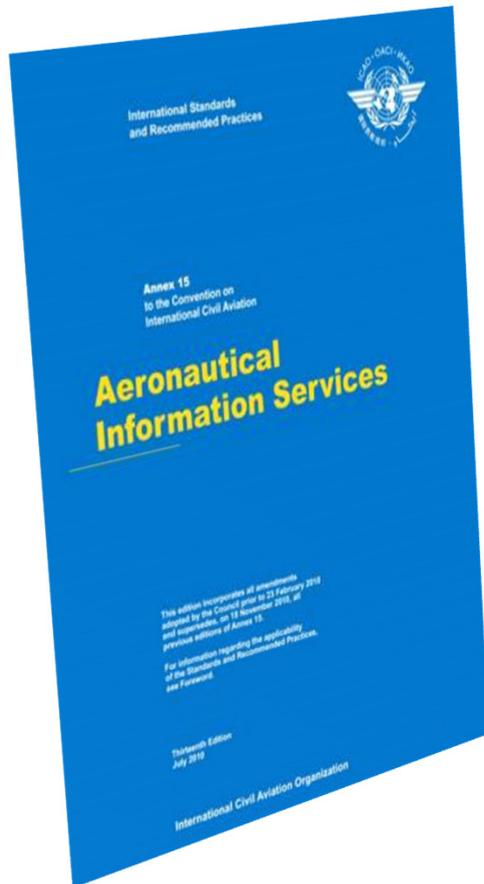
Annex 15 – Chapter 4

The guiding principles to compile *Chapter 4 – Scope of Aeronautical data and Aeronautical Information* are:

- to meet the **need for a minimum data set or scope to support digital data exchange requirements**
- to be the **basis for the scope of aeronautical information and data to be collected and managed** (Chapter 4 and Appendix 1 of Annex 15);
- information and data should be at least sufficient to assemble an AIP;
- To extend beyond current “publication requirements”
- focus on “what” is to be collected by the State, while those requirements which focus on “how to” collect will be addressed in the PANS-AIM;
- be used to guide the application of the new Amendment 37 Annex 15 paragraph 2.1.5 *“Each Contracting State shall ensure that formal arrangements are established between originators of aeronautical data and aeronautical information and the aeronautical information service in relation to the timely and complete provision of aeronautical data and aeronautical information”*



Annex 15 – Chapter 4



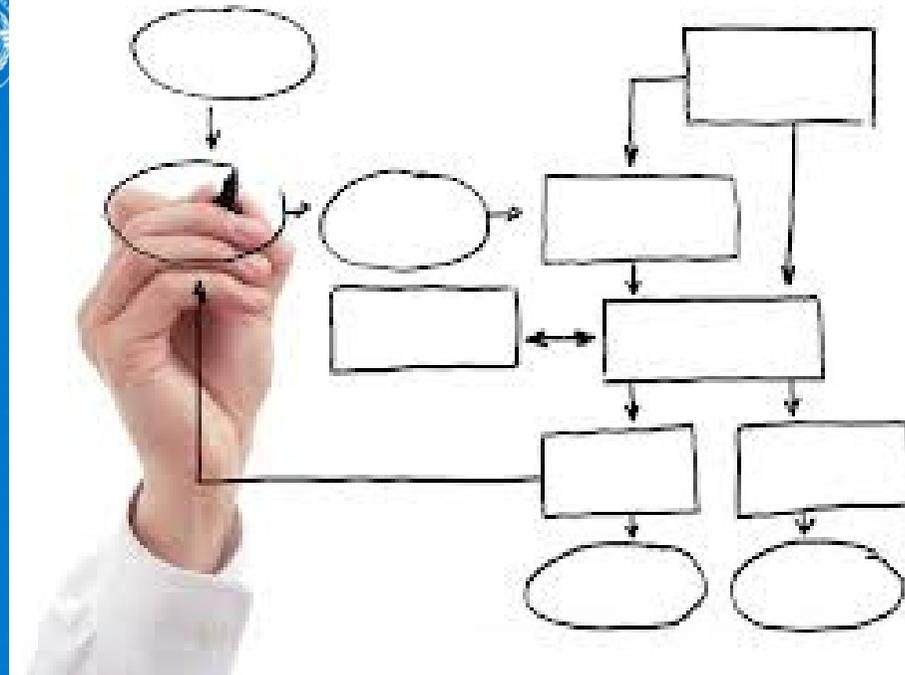
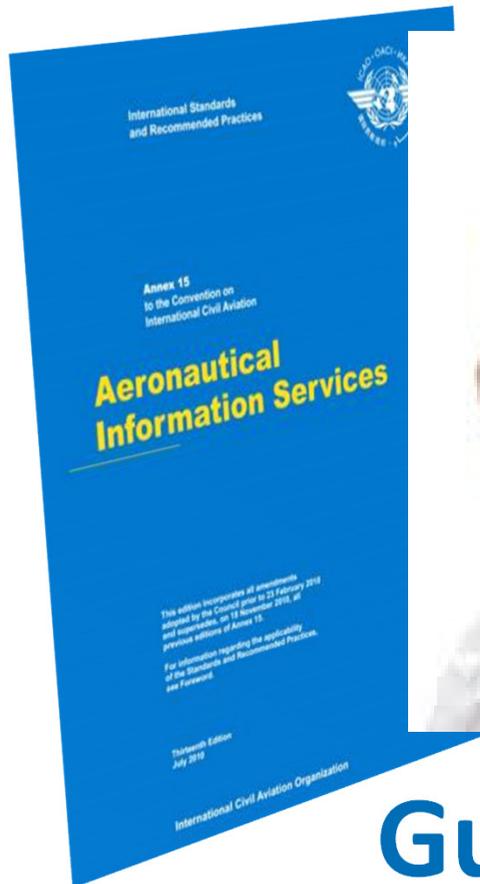
THE STRUCTURE

Scope of Aeronautical data and Aeronautical Information

- General requirements
- National regulations, rules and procedures
- Aviation reference information
- Air Navigation Services
- Aerodromes/heliports
- Airspace
- ATS Routes
- Instrument Flight Procedures
- Navigation aids/systems (Infrastructure)
- Geographic information
- Obstacle Data



Annex 15 – Chapter 5



Guiding Principles

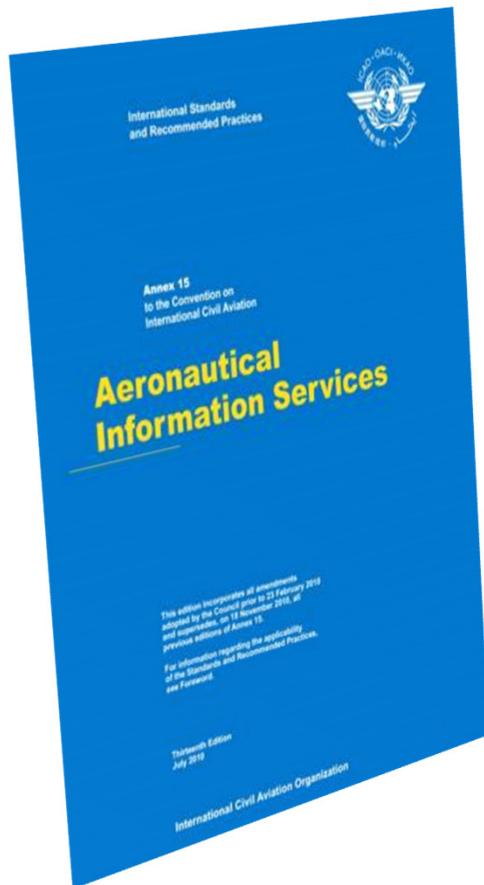


Annex 15 – Chapter 5

- Chapter 5 will contain aeronautical information update, with the focus on products. This will result in including the current AIRAC requirements and details on how to update each product/service;
 - **Specifications for AIP updates** : no changes to the provisions
 - **NOTAM**
 - **Digital data-set updates**: provisions developed for permanent changes and temporary changes of long duration. Provisions for changes of short-duration are still in progress
 - **Permanent changes/temporary changes** to be provided as « Full data set » and/or « Delta data set »
 - **Current AIRAC provisions apply to data set**
 - AIRAC applicable to operationally significant changes
 - No data set in between AIRAC cycles (use NOTAM if necessary)



Annex 15 – Chapter 5



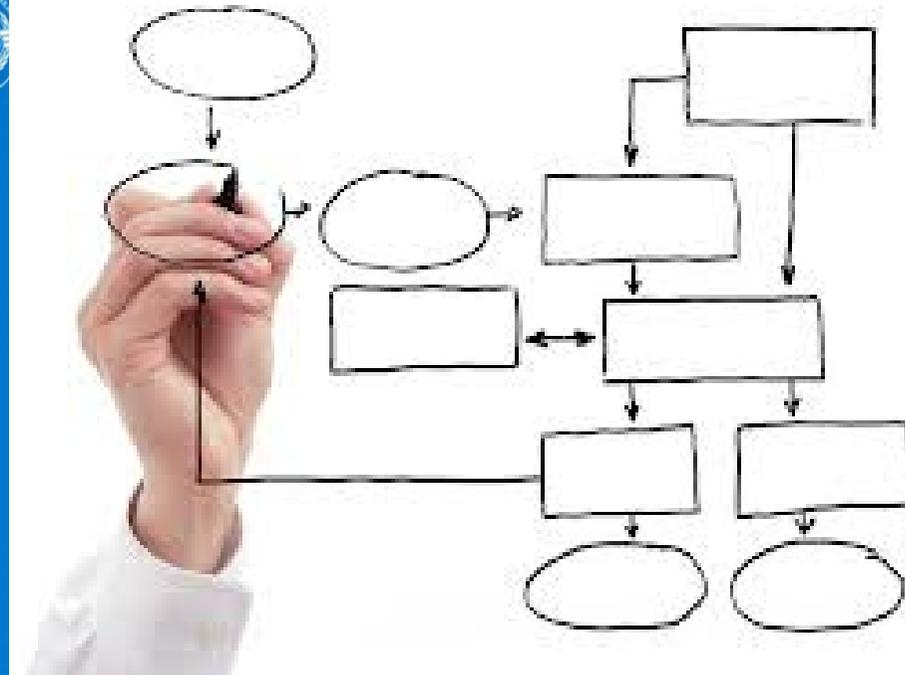
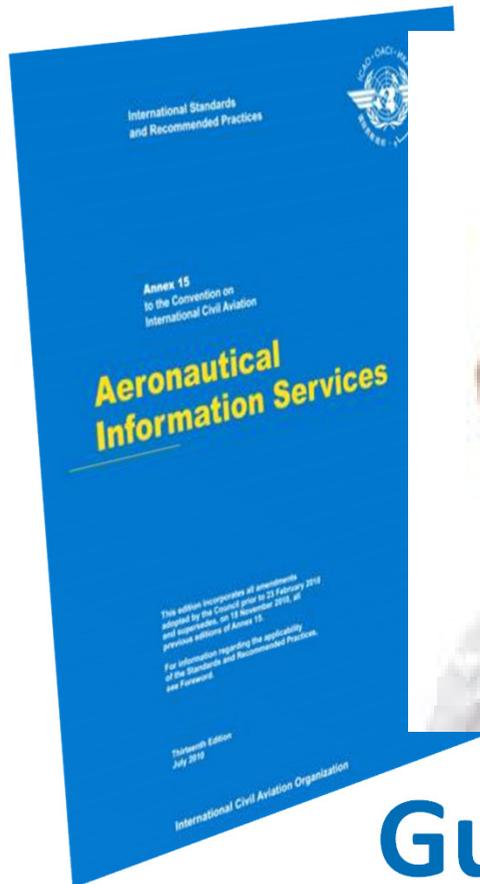
Aeronautical Data and Information Updates

THE STRUCTURE

- Aeronautical Information Regulation and Control (AIRAC)
- Specifications for AIP updates
- NOTAM
- Specifications for digital data updates



Annex 15 – Chapter 6

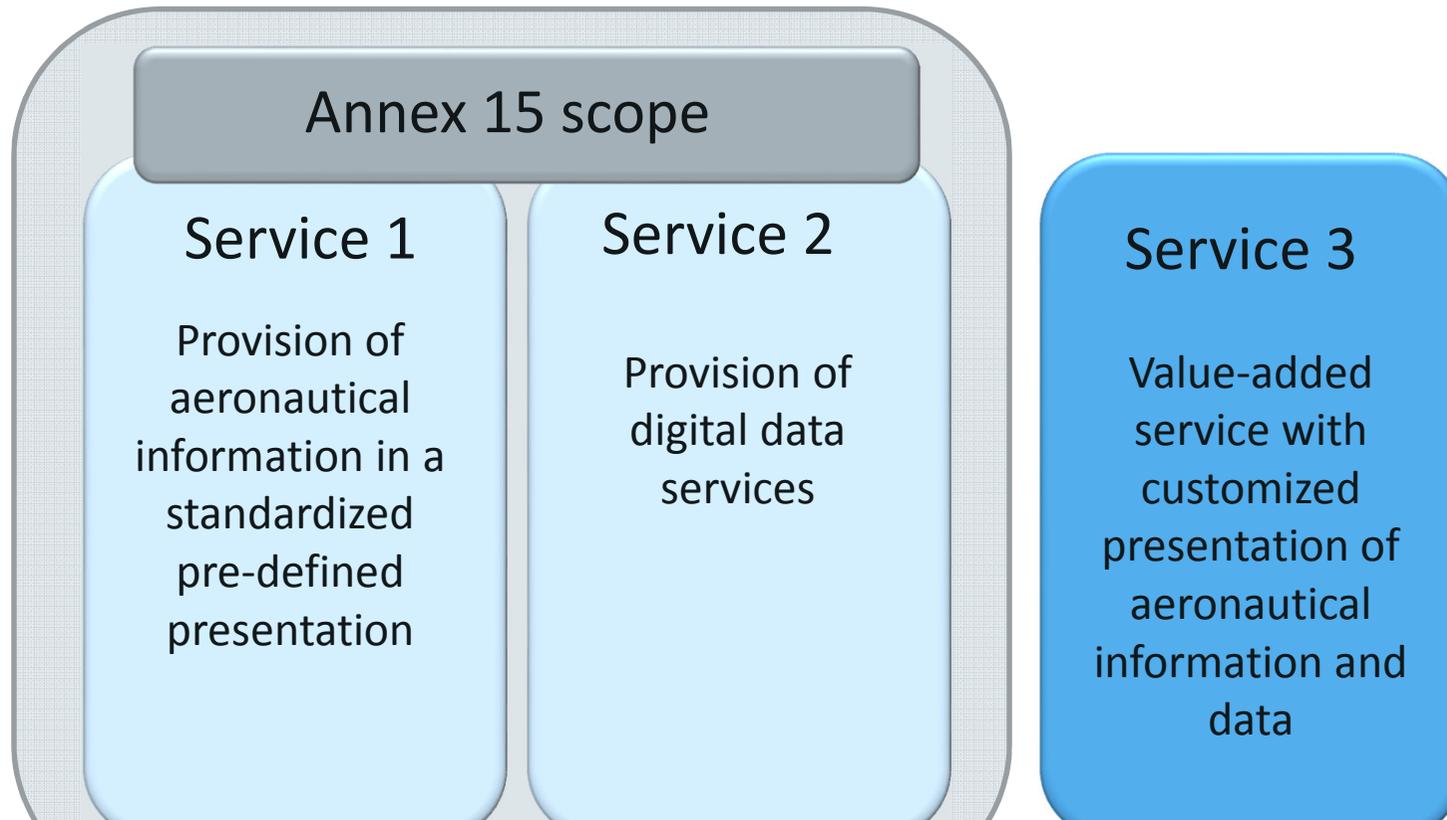


Guiding Principles



Annex 15 – Chapter 6

The guiding principles to compile *Chapter 6 – AIM Products and Services* are...



- **Split between Annex and PANS (“what” vs “how”)**
- **Continuity with previous amendments**
- **Consistency with Chapter 4 and 5**



Annex 15 – Chapter 6

Service 1 = “legacy” (existing products)

- States shall provide the following aeronautical information products:
 - AIP, AIP amendments, AIC and SUP
 - Aeronautical charts (as prescribed in Annex 4)
 - NOTAMs / SNOWTAMs / ASHTAMs and summaries and checklists
 - PIBs
- States should provide the following aeronautical information products:
 - Aeronautical charts (as recommended in Annex 4)
 - eAIP
 - Electronic aeronautical charts





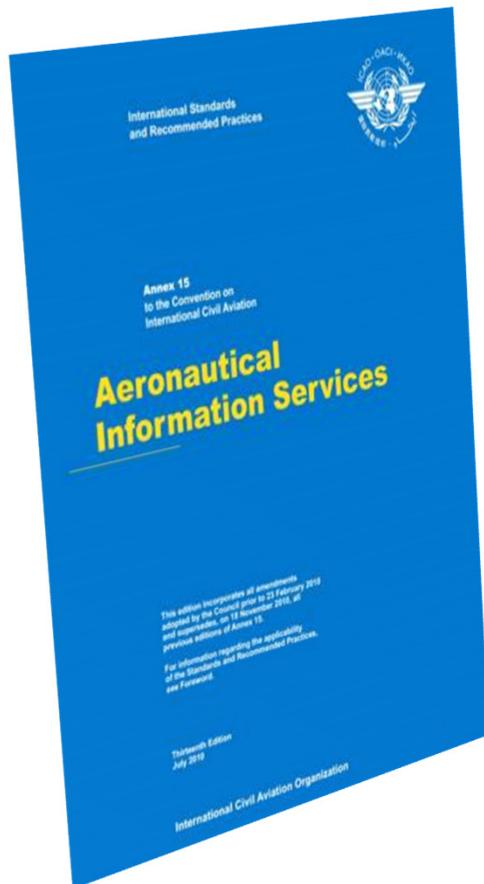
Service 2 = “data sets” (thematic)

- The data included in Chapter 4 shall be provided through data services as thematic data sets
- Data sets shall be categorized according to the following themes: terrain, obstacle, aerodrome mapping, en-route, aerodrome, instrument flight procedure design.
 - *Note: the selection of thematic data sets is intended to facilitate their use by digital data set users.*
- States shall ensure that thematic data sets related to their entire territory are made available for use by international civil aviation.





Annex 15 – Chapter 6



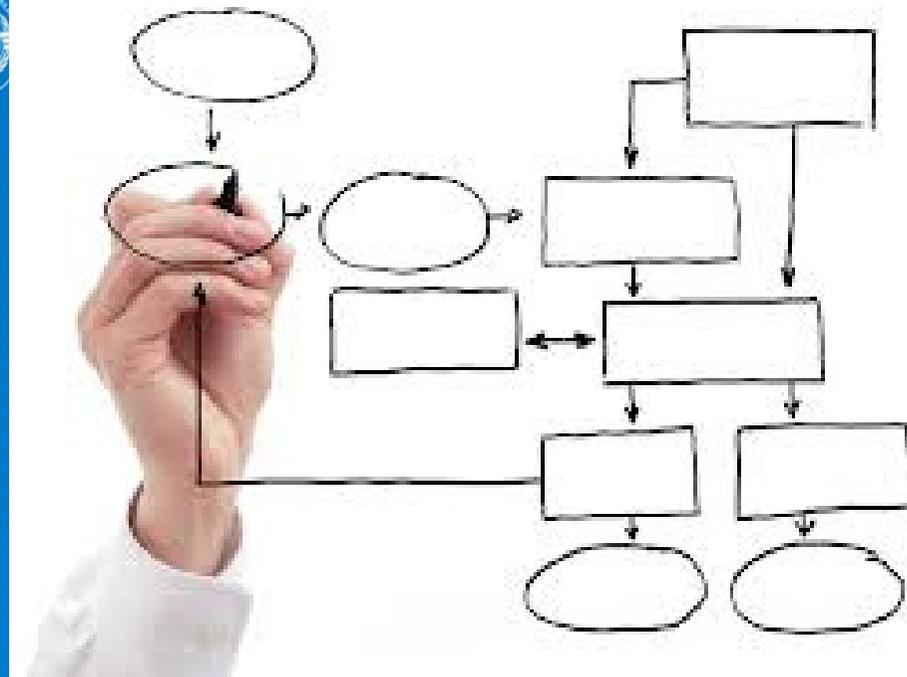
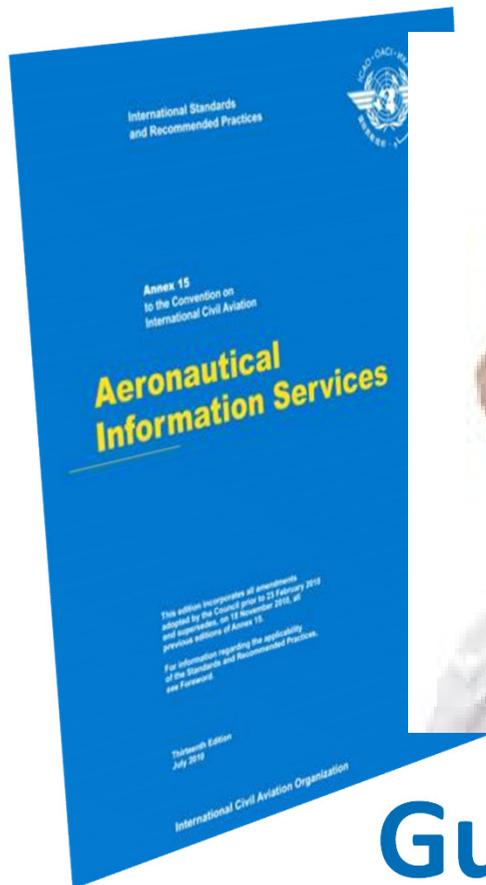
THE STRUCTURE

AIM Products and Services

- Provision of aeronautical information in a standardized predefined presentation
 - Aeronautical Information Publication (AIP)
 - Aeronautical Information Circular (AIC)
 - Aeronautical Charts
- Provision of digital data
 - Aeronautical (AIP) data set
 - Terrain data set
 - Obstacle data set
 - Instrument Flight procedure design
 - Distribution service
- Pre-flight Information Service



PANS- AIM



Guiding Principles



Characteristics of a PANS

Procedures for Air Navigation Services (PANS) for the most part comprise material:

- *which may eventually become Standards when it has achieved the maturity and stability necessary for adoption as such;*
- *considered too detailed for SARPs; and*
- *amplifying the basic principles contained in corresponding SARPs to assist in their application.*

PANS must be suitable for application on a worldwide basis, although the need to apply them in a particular area may be subject to regional agreement.

The PANS do not carry the status of the Standards and therefore do not come within the obligation imposed by Article 38 of the Convention concerning the notification to ICAO of differences in the event of non-implementation. However, in accordance with the provisions of Annex 15, States are expected to publish in their AIPs up-to-date lists of significant differences between their procedures and the related PANS.



Application to AIM

Since PANS primarily consist of material related to the standardization of how something is to be done material such as product specifications, standard procedures, and protocols are ideal material for promulgation as PANS.

- 1) Appendix 1 of Annex 15 concerning the formatting of an AIP;
- 2) Appendices 2, 3, 5, and 6 of Annex 15 and material from Doc 8126 concerning NOTAM, SNOWTAM, and ASHTAM; and
- 3) Material from Doc 8126 concerning AIC and AIRAC where it is desirable to elevate the material to a status beyond guidance.
- 4) Quality management practices and data handling to achieve integrity requirements

Additionally, PANS-AIM would provide a vehicle for expanded and/or new specifications for eTOD and data exchange where it was found desirable to have a level of standardisation but the material was too detailed or not appropriate for inclusion in annex 15 as a SARP.



PANS-AIM Chapter 4

Collection of Aeronautical Data and Aeronautical information

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PANS-AIM Chapter5

Aeronautical Information update

[5.1 Aeronautical Information Regulation and Control \(AIRAC\)](#)

[5.2 Specifications for AIP updates](#)

[5.3 Use of NOTAM](#)

[About current ATC/ATFM switch time in relation with AIRAC dates](#)

[About current FMS switch time in relation with AIRAC cycle dates](#)

[Possible ideas for the future](#)



PANS-AIM Chapter 6

Chapter 6 Procedures for the Provision of AIM Products and services

6.1 Provision of aeronautical information in a standardized predefined presentation

6.1.1 Aeronautical Information Publication (AIP) and Circulars (AIC)

6.1.1.1 Contents

6.1.1.2. General specifications

6.1.1.3 Specifications for AIP Amendments

6.1.1.4 Specification for AIP Supplements

6.1.1.5 Aeronautical Information Circulars

6.1.1.6 Electronic AIP (eAIP)

6.1.1.7 Notification of differences in the AIP

6.1.2 NOTAM

6.1.2.1 Origination

6.1.2.2 General specifications

6.1.2.3 Distribution

Procedures for the provision of AIM products and services

The scope of this document is PANS-AIM material related to the SARPS in the NEW Chapter 6 (Services) of AMDT 38. This document contains previous Annex 15 AMDT 36 SARPS text that is proposed to be moved in the PANS-AIM document. It also contains elements from the AIS Manual (AMDT 2) that is proposed to be raised at PANS level



PANS-AIM Chapter 3

Draft PANS Chapter 3
AERONAUTICAL DATA QUALITY REQUIREMENTS
 (Extracted from Annex 15 Amdt 37 & Annex 4, 11 & 14 vols 1 & 2)

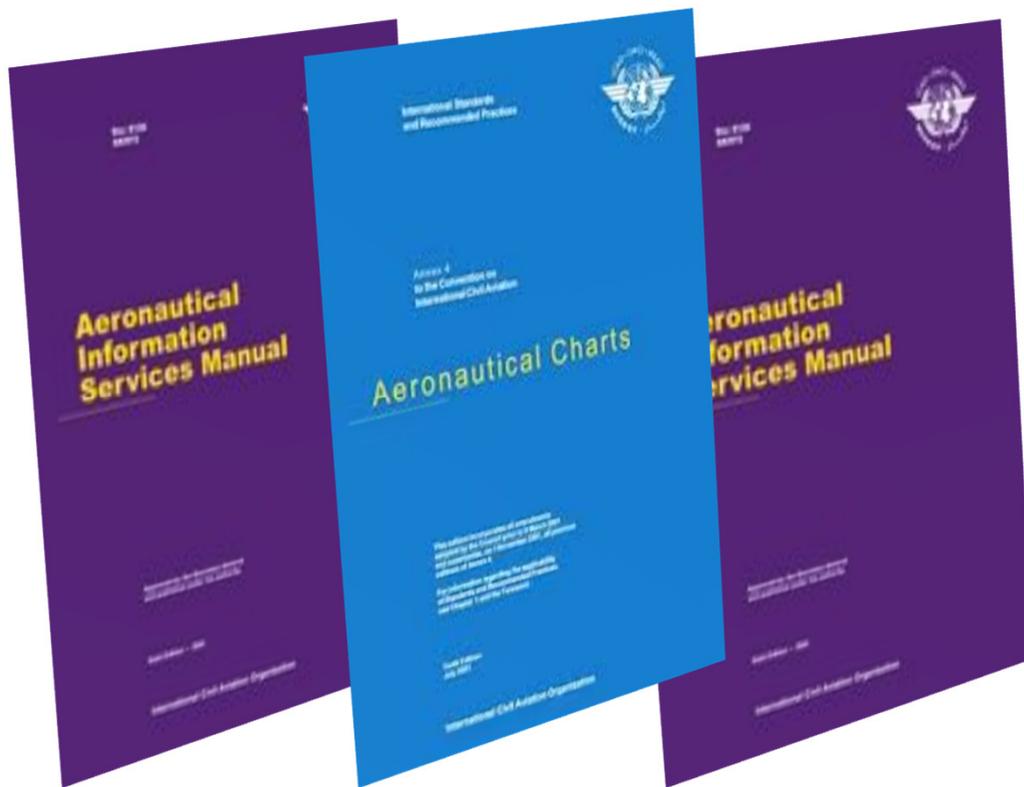
Aeronautical Data Quality Requirements

Latitude and longitude

Latitude and longitude	Publication resolution	Chart resolution	Accuracy Data Type	
Flight information region boundary point	1 min	As plotted	2km declared	routine
P, R, D area boundary points (outside CTA/CTR boundaries)	1 min	As plotted	2km declared	routine
P, R, D area boundary points (inside CTA/CTR boundaries)	1 sec	As plotted	100 m calculated	essential
CTA/CTR boundary points	1 sec	As plotted	100 m calculated	essential
En-route NAVAIDS, intersections and waypoints, and holding, and STAR/SID points	1 sec	1 sec	100 m surveyed/ calculated	essential
Obstacles in Area 1 (the entire State territory)	1 sec	As plotted	50 m surveyed	routine
Aerodrome/heliport reference point	1 sec	1 sec	30 m surveyed/ calculated	routine
NAVAIDS located at the aerodrome/heliport	1/10 sec	As plotted	3 m surveyed	essential
Obstacles in Area 3	1/10 sec	1/10 sec	0.5 m surveyed	essential
Obstacles in Area 2 (the part within the aerodrome boundary)	1/10 sec	1/10 sec	5 m surveyed	essential
Final approach fixes/points and other essential fixes/points comprising the instrument approach procedure	1/10 sec	1 sec	3 m surveyed/ calculated	essential



Guidance material



- ***AIS Manual - Amdt3 Doc8126***
- ***Quality Manual (Doc9839)***
- ***Training Manual (Doc9919)***
- *AIM Concept*
- *eTOD/AMDB Manual (Doc9881)*
- *WGS-84 Manual (accuracy & heighting) Doc9674*
- *Charting Manual update (Doc8697)*
- *Public Usage of the Internet (Doc9855)*



Summary

- The ICAO provisions for AIM are being reworked to provide a comprehensive set of requirements, practices, procedures and “best practice” guidance
- The revised provisions are intended to be grouped in such a way that they address the needs of defined groups (regulator, ais provider, originator, etc)
- It is intended that the PANS AIM will be the daily reference for AIM personnel
- Guidance material will be focused on how to improve or implement capabilities

