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References for the AIM Work Plan

Aeronautical Information Manager (AIM)
Regional Officer

ICAO NACC Regional Office /11 May2021





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Aviation System Block Upgrade (ASBU)

Annex 15 and PANS-AIM implementation

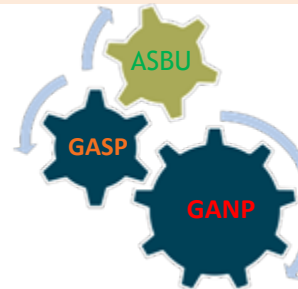
What is the difference?

- Annex = performance based SARPs
 - PANS = technical & procedural provisions
 - Elevate certain procedures from guidance to PANS
 - Support data centricity with processes and procedures
 - Support interoperability
 - PANS deviation to be published in AIP only (Differences)
- Supports stepwise transition/migration

Trends to Assembly 41 (2022)

GANP, ASBU, AIM, IM (SWIM)
Digital AIM (DAIM) is part of it

- **GANP** - Global Air Navigation Plan
- **GASP** - Global Aviation Safety Plan
- **ASBU Document**





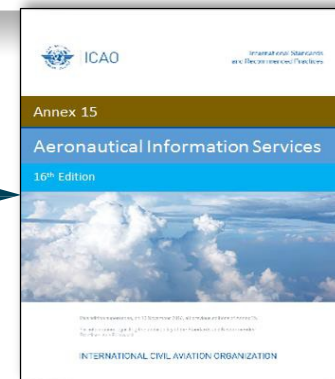
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AIS to AIM

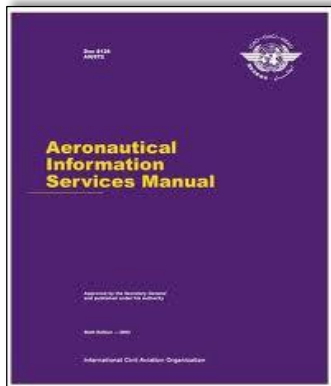
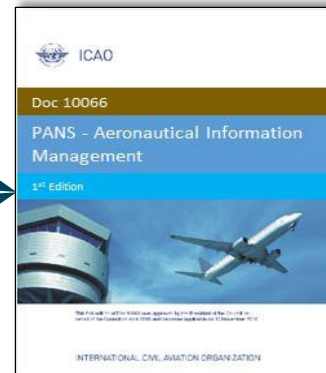


State Provisions (what)



Operational Provisions

AIM Practitioners instructions
(how to)



Guidance (explanations)



FOCUS on Data Centric Approach

Split of data origination from data publication requirements

- Introduction of the aeronautical data catalogue
- Introduce digital data sets

Aeronautical information product (standard or electronic)

Data quality requirements at one place (PANS-AIM)

- Separating obstacles & terrain
- Bring in AMDB harmonised
- NOTAM improvement proposal
- CRC performance-based requirements

Rules

- Properties
- Parameters
- Models

Annexes: 2, 3, 4, 5, 7, 9,
10v1, 10v2, 10v3, 10v5,
11, 12, 13, 14v1, 14v2,
15, 16v1, 16v2, 17, 18,
19

- **PANS-AIM** - Data catalogue - Data Management
- **PANS-OPS**

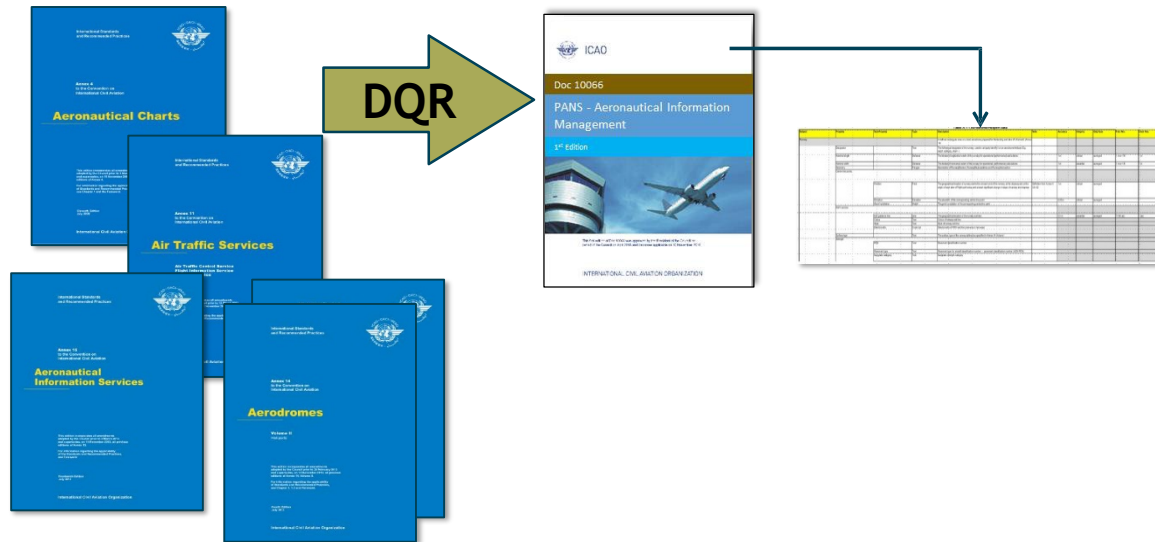


• ICAO Data Catalogue

1. Aerodrome data
2. Airspace data
3. ATS & other routes data
4. Instrument Flight Procedure data
5. Radio Navigation aids/systems data
6. Obstacle data
7. Geographic data
8. Terrain data
9. Data types
10. Information about national and local regulation, services and procedures

• Data Quality Requirements (DQR)

Annexes: 4, 11, 14, 15, PANS-AIM and PANS-OPS



Data quality. A degree or level of confidence that the data provided meet the requirements of the data user in terms of accuracy, resolution, integrity (or equivalent assurance level), traceability, timeliness, completeness and format.



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DQR Components

Data accuracy

- A degree of conformance between the estimated or measured value and the true value

Data integrity

- (assurance level). A degree of assurance that an aeronautical data and its value has not been lost or altered since the origination or authorized amendment

Data resolution

- A number of units or digits to which a measured or calculated value is expressed and used

Data timeliness

- The degree of confidence that the data is applicable to the period of its intended use

Data traceability

- The degree that a system or a data product can provide a record of the changes made to that product and thereby enable an audit trail to be followed from the end-user to the originator.

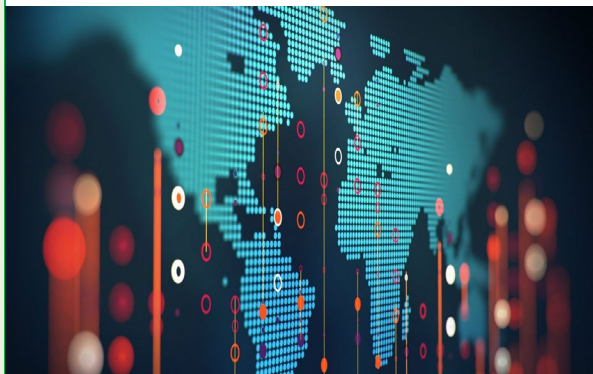
Data Completeness

- The degree of confidence that all of the data needed to support the intended use is provided.

Origination Type	Meta Data	Format
Calculated	Collected for process & exchange points	Descretion of State
declared	Provided with each data set	Note: Commonly used data encoding formats
surveyed	ISO 19115	Note: XML, GML, JSON



- Exchange between data providers and data users (*ISO 19100*)
- Based on a product specification (*ISO 19131*)
- Common encoding models (*UML, XML, GML, JSON*)
- Complemented by charts, maps & diagrams
- Metadata (*ISO 19115*)



- AIP data set
- Terrain data set
- Obstacle data set
- Aerodrome mapping data set (shall be supported by terrain & obstacle data for area 3)
- IFP data set
- Distribution
 - Different ways
 - SWIM



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Formal Arrangements

Between Formal Arrangements

- Originators & State AIM
- *Also parties acting on behalf of States (recommendation)*

Minimum Content

Regulatory framework

- Data origination
- Quality assurance
- Metadata and quality reporting
- Data delivery
- Error handling

State Letter could be used

- Identification and understanding what is really NEW is most important

AERONAUTICAL DATA REQUIREMENTS

4.1 Data Origination Requirements

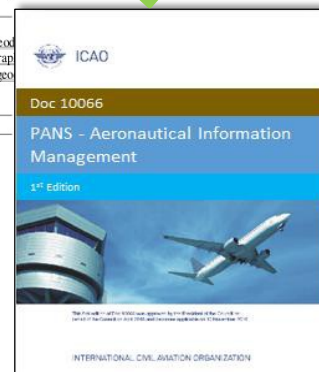
4.1.1: New text

4.1.2 The order of accuracy for aeronautical data shall be as specified in Annex 11, Chapter 2, and Annex 14, Volumes I and II, Chapter 2. In that respect, three types of positional data shall be identified: surveyed points (runway thresholds, navigation aid positions, etc.), calculated points (mathematical calculations from the known surveyed points of points in space/fixtures) and declared points (e.g. flight information region boundary points).

Editorial Note.— 4.1.2 is relocated text from Annex 15, 3.3.1

4.1.3 World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for international air navigation. Consequently, published aeronautical geographic coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic datum.

Editorial Note.— 4.1.3 is relocated text from Annex 15, 1.2.1.1



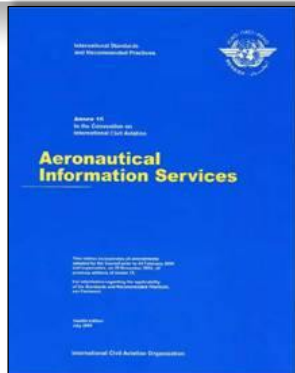


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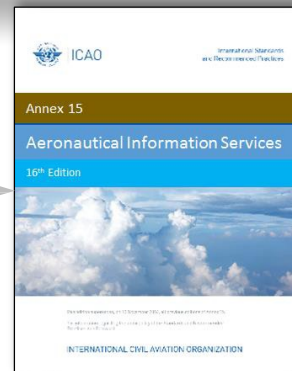
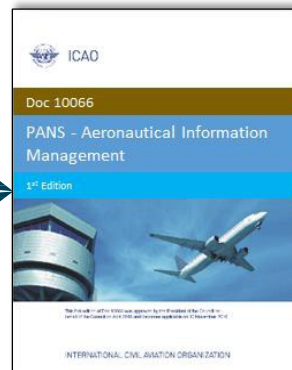
Changes

State provisions

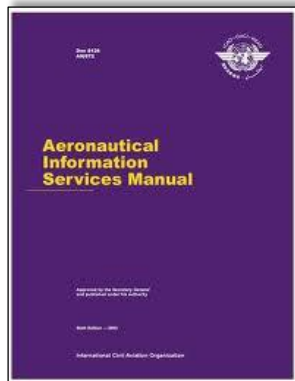


About 120 text relocations

About 20 text relocations



Guidance / Explanations





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Planning and Implementation

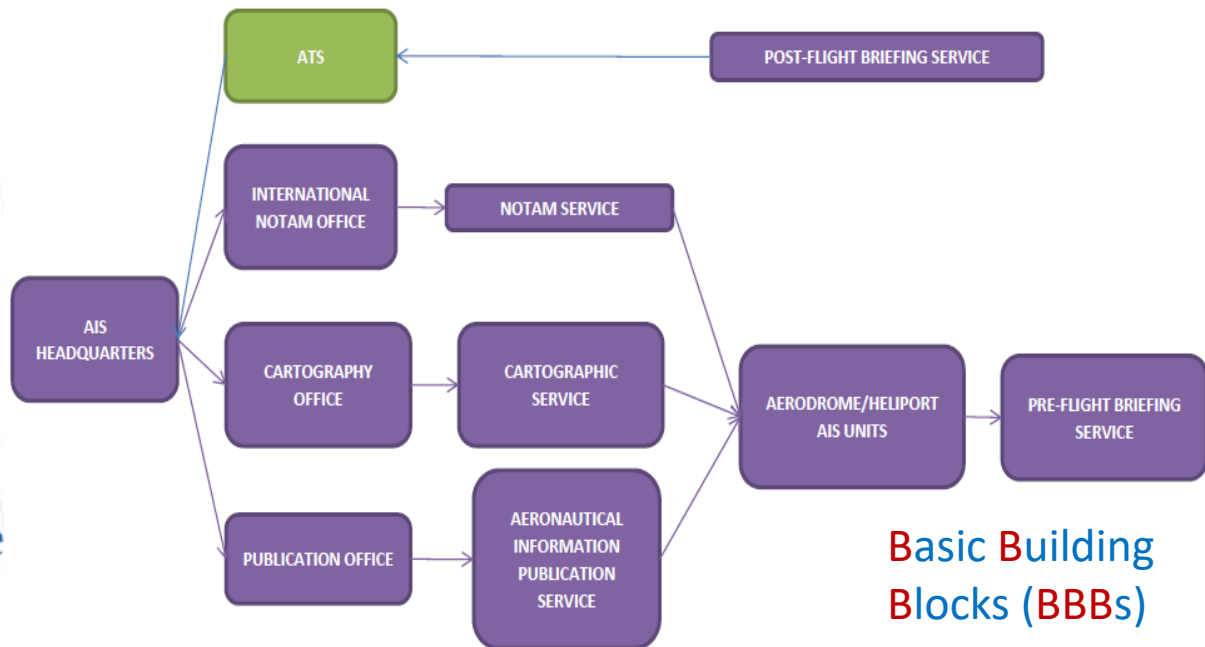
Global Air Navigation Plan 6th. Edition (**GANP** online)

Strategic
Planning



Effective
Results

AIM (AIS) BASIC MODULES AND ELEMENTS



Basic Building
Blocks (BBBs)

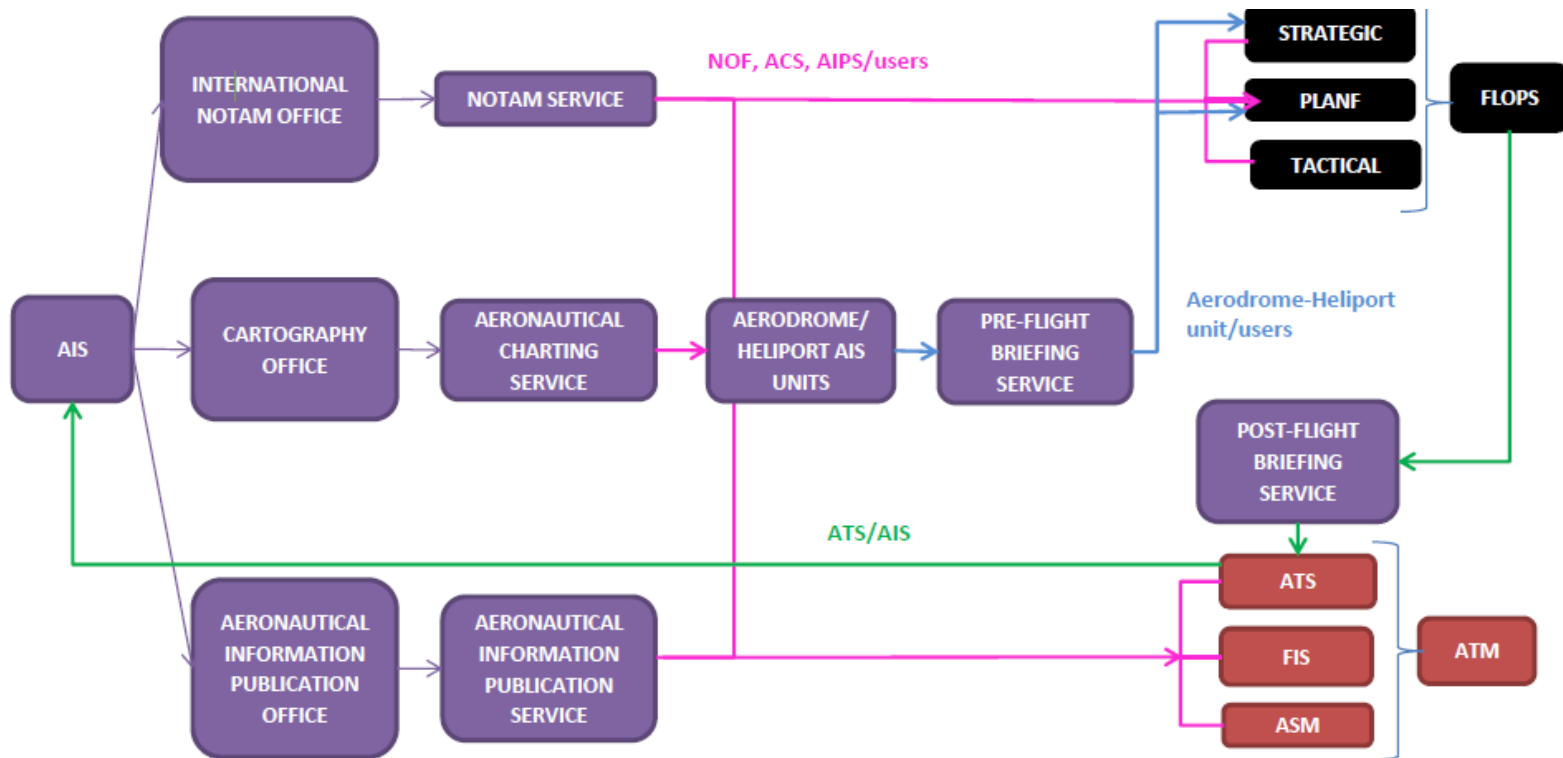


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AIM (AIS) BASIC MODULES AND ELEMENTS



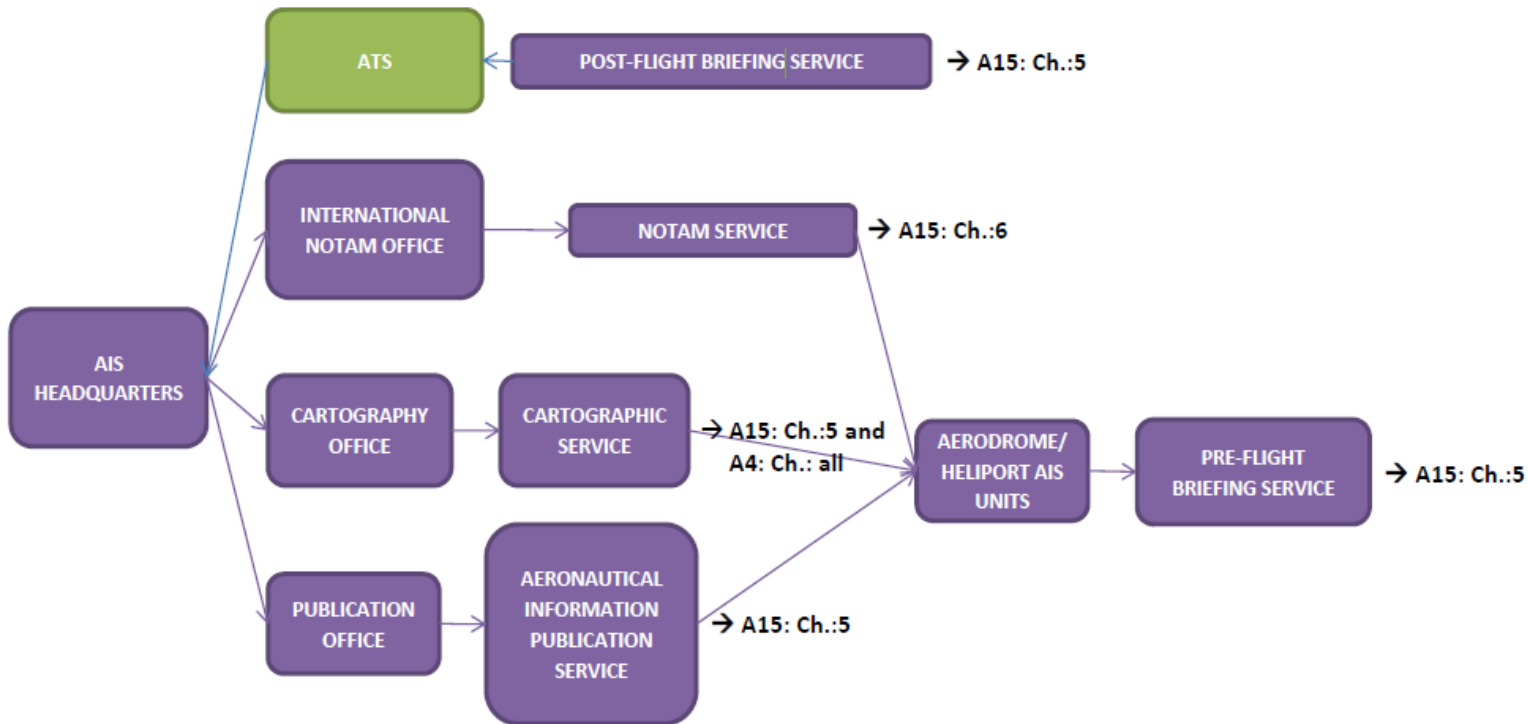


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AIM (AIS) BASIC MODULES AND ELEMENTS



REFERENCES ICAO SARPs
Annexes 4 and 15

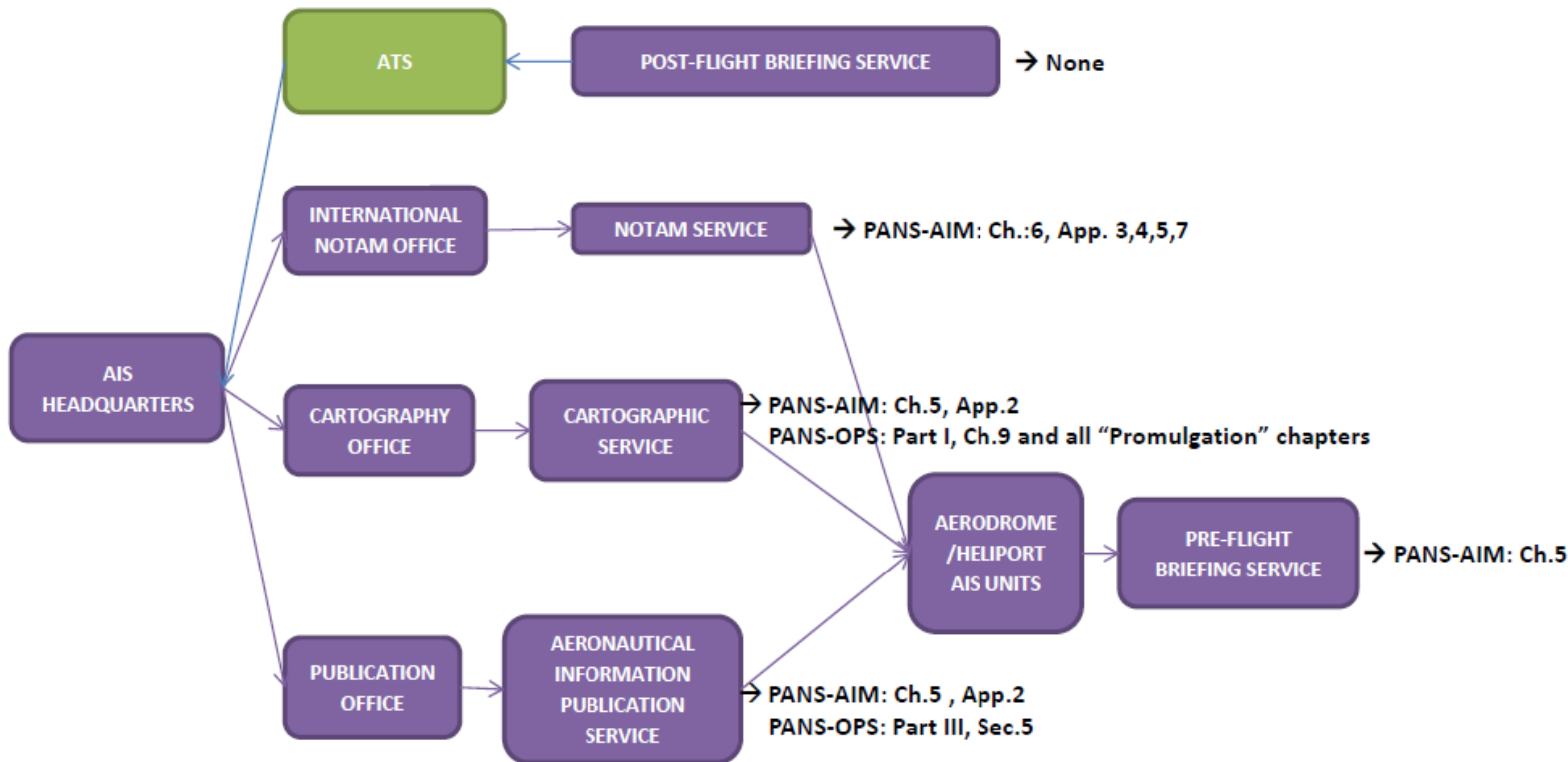


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AIM (AIS) BASIC MODULES AND ELEMENTS



REFERENCES ICAO Procedures
PANS AIM – PANS OPS

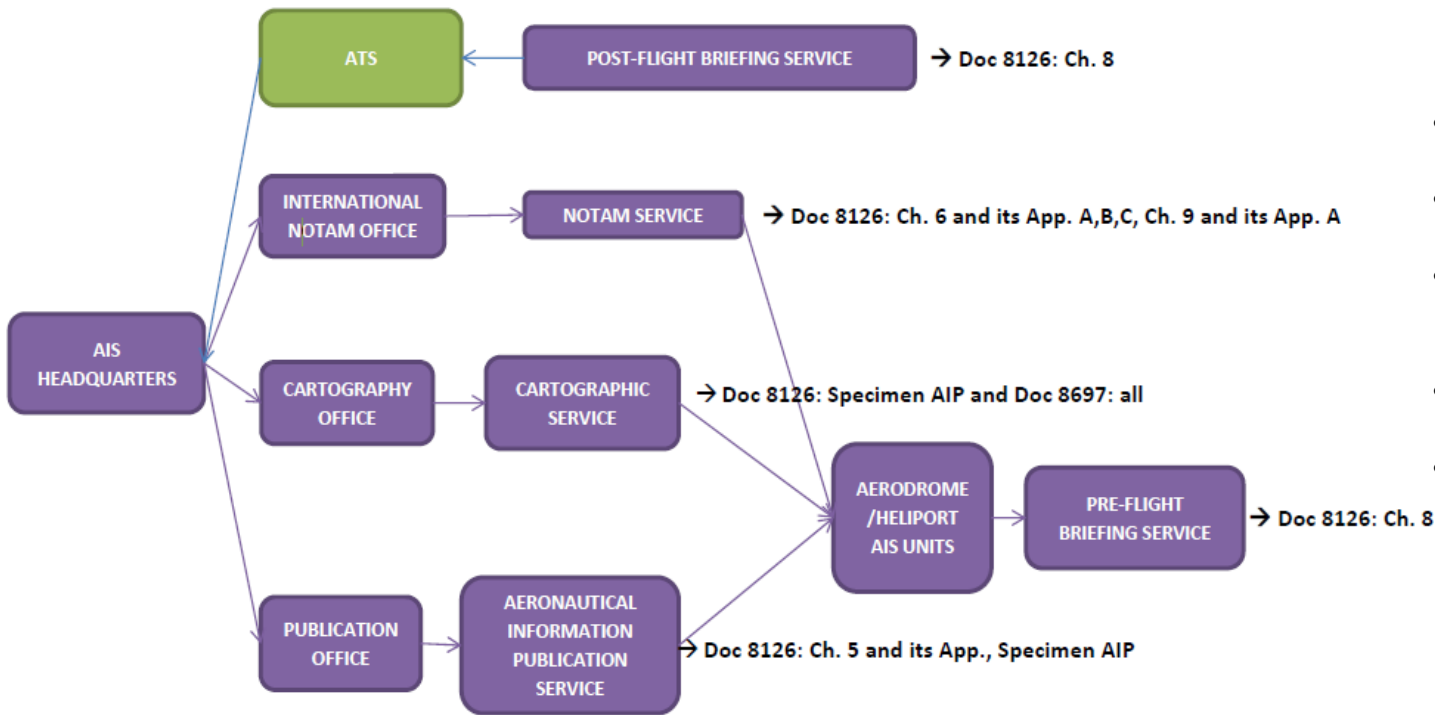


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AIM (AIS) BASIC MODULES AND ELEMENTS



- **Annex 15:** Aeronautical Information Services
- **Annex 4:** Aeronautical Charts
- **PANS-AIM (Doc 10066):** Aeronautical Information Management
- **PANS-OPS (Doc 8168):** Aircraft Operations
- **Doc 8126:** Aeronautical Information Services Manual

REFERENCES ICAO Guidance



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

South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

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) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



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