



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**  
*A United Nations Specialized Agency*



## **MID Region – AIM SG/2**

# **ICAO AIM Data Catalogue**

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# Data Catalogue Objectives



- The Data Catalogue shall be considered as a **reference** for all provisions related to aeronautical data origination and publication.
- The Data Catalogue provides a **common language** that can be used by data providers/originators and AIS;
- The Data Catalogue consolidates data that **may be collected** and maintained by AIS
- The Data Catalogue is the single source of all **data quality requirements**

# Data Catalogue in ICAO Material



- General references in ICAO Annexes 11, 14 and 15 (but no direct “shall”)
- Removal of tables in Appendices to existing Annexes
- Introduction of the Data Catalogue in PANS-AIM (with direct “shalls”)
- Inclusion of the Data Catalogue tables as Appendix 1

# Data Sub-Domains of AIM



The Data Catalogue is structured according to the data sub-domains:

- Aerodromes;
- Airspaces;
- ATS Routes;
- Instrument Flight Procedures;
- Radio Navigation Aids / Systems;
- Obstacles and
- Geographic Information;

# Data Catalogue Structure



Title	Definition	Example
Subject	All Features mentioned in PANS-AIM	Runway
Property	Property of the subject	Strip
Sub-Property		Length and width of strip
Type	Data Type and domain of values	Location, Elevation, or List of valid values (e.g. IFR, VFR, IFR/VFR)
Description	Definition (if an ICAO definition exists) or description of the subject and/or property and sub-property (taken from the source Annex or PANS document)	
Note	Additional information or conditions of the provision	"To be collected where appropriate"
Reference	Reference to the source Annex(es) and PANS documents where the data element is defined	Annex 14 2.5.1 a)
Accuracy	Accuracy requirement according to Annex 11 and 14	1 m
Integrity	Integrity requirement	Critical, Essential, Routine
Origination type	Type of origination	Surveyed, Calculated, Declared
Publication res.	Publication resolution requirement according Annex 15	1 m or 1 ft
Chart res.	Chart resolution requirement according Annex 4	1 sec

# Data Elements



Type	Description	Data Element
Point	Set of coordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth.	Latitude Longitude Horizontal Reference System Horizontal Accuracy
Line	Sequence of Coordinates defining a linear object	Sequence of Coordinates
Polygon	Sequence of Coordinates forming the boundary of the polygon. The first and last Coordinate are identical.	Closed sequence of Coordinates
Height	The vertical distance of a level, point or an object considered as a point, measured from a specific datum.	Value Vertical Reference System Units of Measurement Vertical Accuracy
Altitude	The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.	Value Vertical Reference System Units of Measurement Vertical Accuracy

# Data Elements



Type	Description	Data Element
Elevation	The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.	Value Vertical Reference System Units of Measurement Vertical Accuracy
Distance	A linear value	Value Units of Measurement Accuracy
Angle / Bearing	An angular value	Value Units of Measurement Accuracy
Value	Any measured, declared or derived value not listed above.	Value Units of Measurement Accuracy
Schedule	A repetitive time period, composed of one or more intervals or special dates (e.g. holidays) occurring cyclically	Text
Code list	A set of predefined Text strings or values	Text
Text		Character Strings with no constraints

# Data Catalogue (Sample)



I C A O										
Subject	Property	Sub-Property	Type	Description	Note	Accuracy	Integrity	Orig Type	Pub. Res.	Chart Res.
Runway				A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft. (Annex 14)						
	Designator		Text	The full textual designator of the runway, used to uniquely identify it at an aerodrome/heliport which has more than one. E.g. 09/27,						
	Nominal length		Distance	The declared longitudinal extent of the runway for operational (performance) calculations.		1m	critical	surveyed	1 m or 1 ft	1 m
	Nominal width		Distance	The declared transversal extent of the runway for operational (performance) calculations.		1m	essential	surveyed	1 m or 1 ft	1 m
	Geometry		Polygon	Geometries of Runway Element, Runway Displaced Area and Runway Intersection						
	Centre line points									
		Position	Point	The geographical location of runway centre line at each end of the runway, at the stopway and at the origin of each take-off flight path area, and at each significant change in slope of runway and		1m	critical	surveyed		
		Elevation	Elevation	The elevation of the corresponding centre line point.		0.25m	critical	surveyed		
		Geoid undulation	Height	The geoid undulation at the corresponding centre line point						
	RWY exit line									
		Exit guidance line	Line	The geographical location of the runway exit line		0.5m	essential	surveyed	1/100 sec	1 sec
		Colour	Text	Colour of runway exit line						
		Style	Text	Style of runway exit line						
		Directionality	Code List	Directionality of RWY exit line (one-way or two-way)						
	Surface type		Text	The surface type of the runway defined as specified in Annex 14 Volume I						
	Strength									
		PCN	Text	Pavement classification number						
		Pavement type	Text	Pavement type for ACN-PCN determination						
		Subgrade category	Text	Subgrade strength category						
		Allowable pressure	Text	Maximum allowable tire pressure category or maximum allowable tire pressure value						
		Evaluation method	Text	The evaluation method used						

# Benefit of the Data Catalogue



- Basis for development of a national Data Catalogue with:
  - Responsible parties for data origination
  - Authorisation
  - National data quality requirements
  - Expand with national items
- Reference for Formal Arrangements between Originator and AIS
- Reference for product compilation
- “Shopping List” for ATM



**Increased relevance of AIM**