



World Aeronautical Chart — ICAO 1:1 000 000

Aeronautical Chart — ICAO 1:500 000


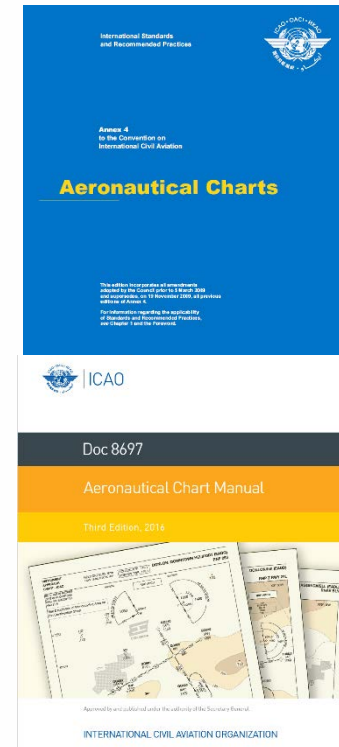
SAUDI ARABIA STATUS OF PRODUCTION

Presentation Content

1. Introduction
2. KSA Aeronautical Chart production plan
3. Maintenance of WAC and Aeronautical Charts - ICAO 1:500 000
4. Limitation
5. KSA Aeronautical Charts Future Plan
6. Challenges and Recommendations

Introduction

- The demand for visual flights based on VFR has been on the rise, necessitating the issuance of specific aeronautical charts
- These charts display ground features, terrains, and highlight airspace and obstacles, making them indispensable for this type of air traffic.
- World Aeronautical Charts — ICAO 1:1 000 000 are a published by Saudi Arabia in the KSA eAIP.
- Aeronautical Chart — ICAO 1:500 000 will be produced and publish by Saudi Arabia for operational needs.



GACA PART 175 AERONAUTICAL INFORMATION SERVICES

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GACA Part 175 UNCONTROLLED DOCUMENT WHEN DOWNLOADED
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VERSION 5.0

KSA Aeronautical Chart production plan

Project initiation

GACA collaborated with General Authority for Survey and Geospatial Information (GEOSA) to generate and produce a series of aeronautical charts

Feb 2023

Feb – Nov 2023

Charts Production

Producing “45” charts scale 1:500,000, as well as the update of “8” aeronautical charts at a scale of 1:1,000,000 (WAC) in accordance with ICAO requirements.

Project standardization

1. Preparation of advisory circular (AC) and Aeronautical Information Circular (AIC).
2. Obstacles and terrain data has been updated.

Nov 2023 – Feb 2024

1st Quarter 2024

Charts Publication

GACA coordinated with AIS providers (SANS) to publish charts, and update the obstacles and terrain data to be effective on 18 Apr 2024 and development of post-publication plan

Publication



Aeronautical data source Regulation, Approval, Inspection, Lead, and control



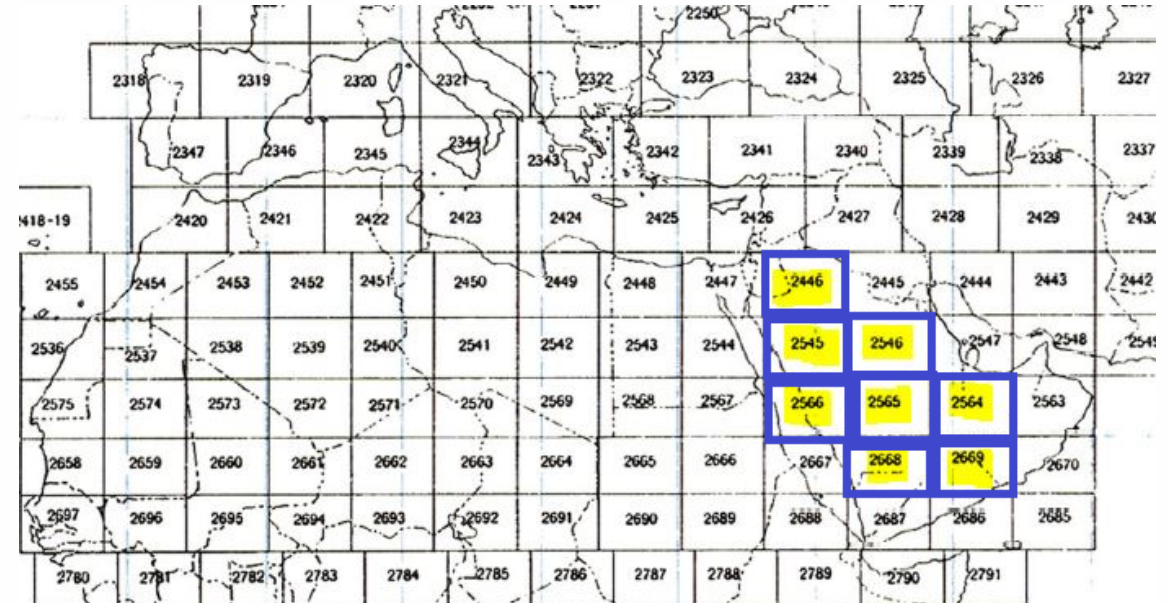
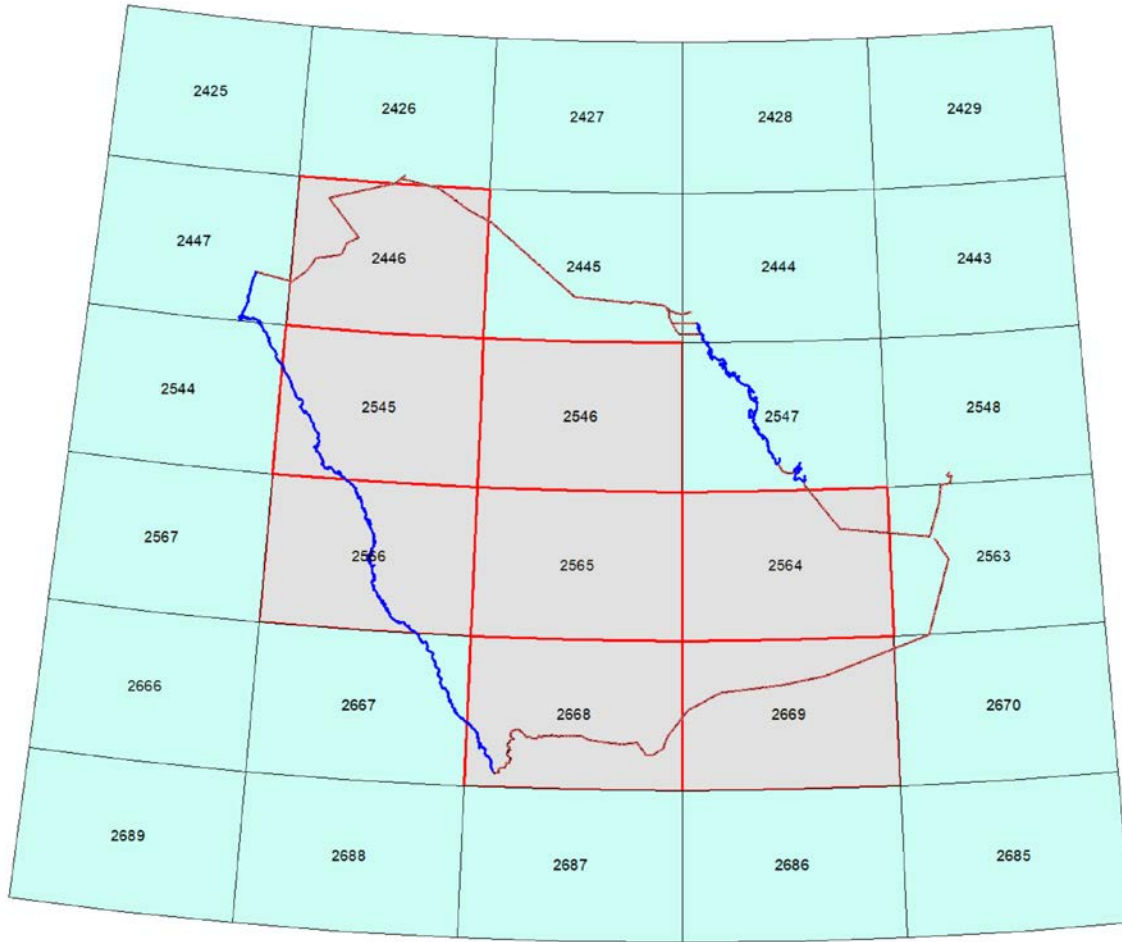
Production of charts Topographical and obstacles data



Publication, and maintenance

KSA Aeronautical Charts Production

Aeronautical Chart — ICAO 1:1000 000

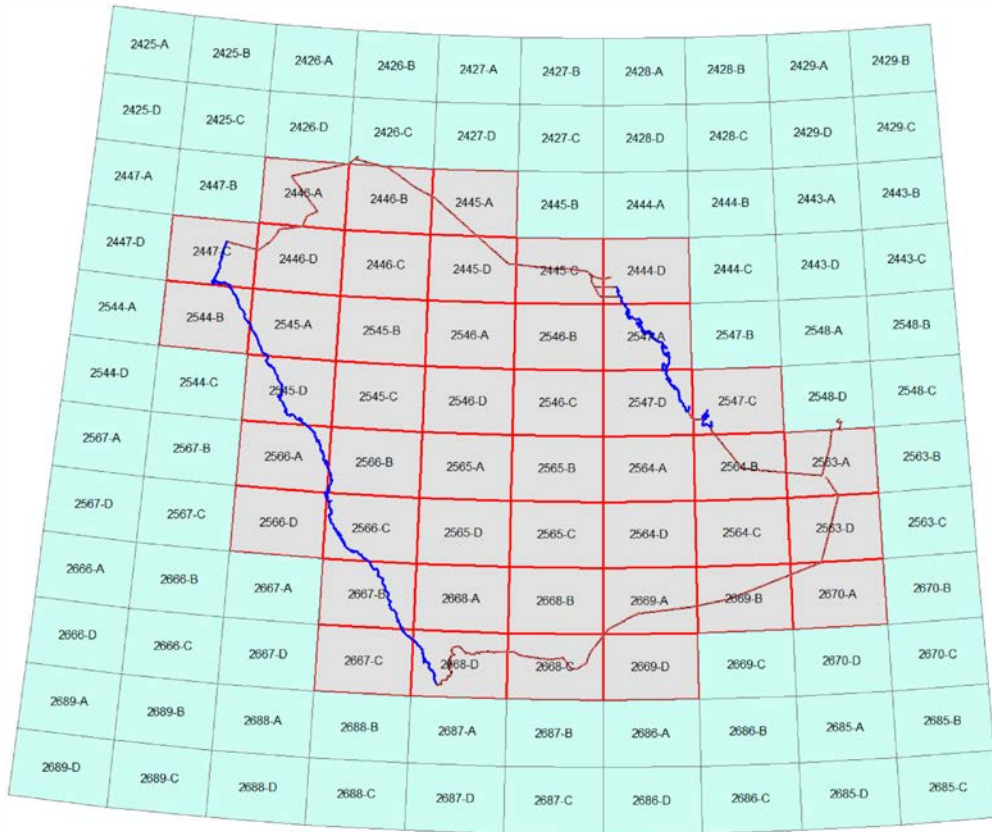


Sequence	Sheet Number	Sequence	Sheet Number
1	2446	5	2565
2	2545	6	2566
3	2546	7	2668
4	2564	8	2669

Sheets are identified by the reference number of the corresponding (WAC) delineated in ICAO Annex 4 Appendix 5

KSA Aeronautical Charts Production

Aeronautical Chart — ICAO 1:500 000



Sequence	Sheet Number	Sequence	Sheet Number	Sequence	Sheet Number
1	2444-D	16	2546-B	31	2565-D
2	2445-A	17	2546-C	32	2566-A
3	2445-C	18	2546-D	33	2566-B
4	2445-D	19	2547-A	34	2566-C
5	2446-A	20	2547-C	35	2566-D
6	2446-B	21	2547-D	36	2667-B
7	2446-C	22	2563-A	37	2667-C
8	2446-D	23	2563-D	38	2668-A
9	2447-C	24	2564-A	39	2668-B
10	2544-B	25	2564-B	40	2668-C
11	2545-A	26	2564-C	41	2668-D
12	2545-B	27	2564-D	42	2669-A
13	2545-C	28	2565-A	43	2669-B
14	2545-D	29	2565-B	44	2669-D
15	2546-A	30	2565-C	54	2670-A

The entire territory of the Kingdom of Saudi Arabia is covered by forty-five (45) sheets.

KSA Aeronautical Charts Production

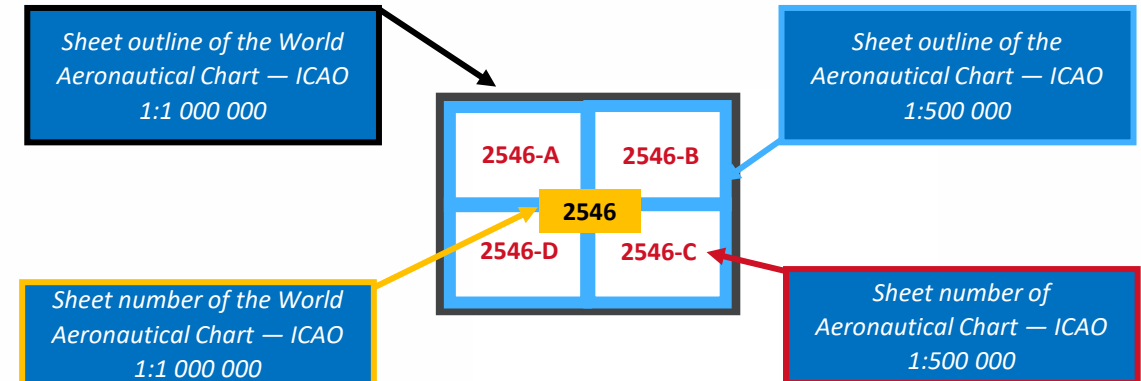
Aeronautical Chart — ICAO 1:500 000

Sheets are identified by the reference number of the corresponding World Aeronautical Chart – ICAO (WAC) 1:1 000 000, as delineated in ICAO Annex 4 Appendix 5 (sheet layout), with the addition of one of the following letter suffixes indicating the quadrant:

Letter	Chart Quadrant
A	North-West
B	North-East
C	South-East
D	South-West

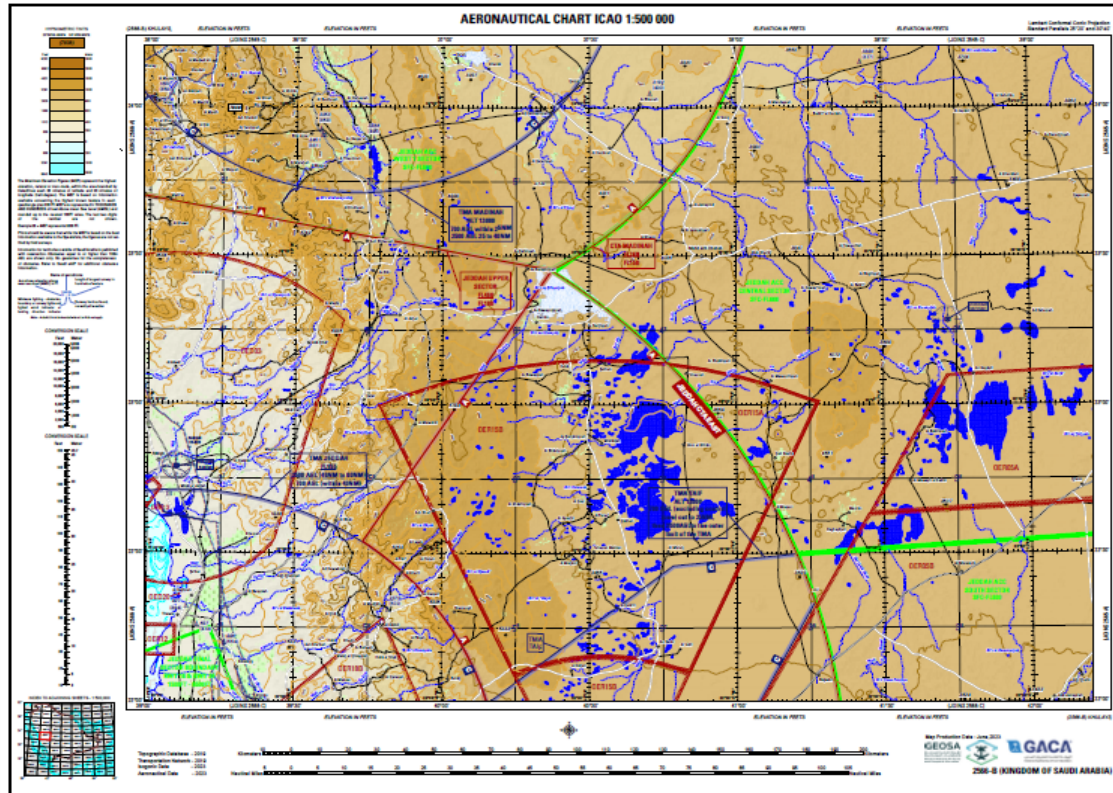
Notes:

- Sheet 2546 is the number of the WAC - ICAO 1:100 000 sheet.
- Sheet 2546-A is the number of a single Aeronautical Chart — ICAO 1:500 000 sheet in the North-West quadrant of the WAC - ICAO 1:1 000 000 Sheet.



KSA Aeronautical Charts Production

Aeronautical Chart — ICAO 1:500 000 (2566 B)



Aeronautical and Topography Information

This section provides a comprehensive legend for the aeronautical chart, detailing symbols and colors used for various features.

Category	Symbol/Color	Description
OBSTACLES	[Symbol]	Obstacle
	[Symbol]	Group Obstacle
	[Symbol]	Lighted Group Obstacle
	[Symbol]	Exceptionally High Obstacle (Optional symbol)
	[Symbol]	Exceptionally High Obstacle - Lighted (Optional symbol)
	[Symbol]	Elevation of top above mean sea level (AMSL) in FT
	[Symbol]	Height above ground (AGL) in FT
	[Symbol]	Obstruction
	[Symbol]	Obstruction
	[Symbol]	Obstruction
AIRSPACE CLASSIFICATIONS	[Symbol]	Class A
	[Symbol]	Class B
	[Symbol]	Class C
	[Symbol]	Class D
	[Symbol]	Class E
	[Symbol]	Class G
	[Symbol]	Class F
	[Symbol]	Class H
	[Symbol]	Class I
	[Symbol]	Class J
AIRSPACE RESTRICTIONS	[Symbol]	Prohibited airspace
	[Symbol]	Restricted airspace
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
	[Symbol]	Common boundary of two areas
AERODROMES	[Symbol]	Civil Aerodrome
	[Symbol]	Military Aerodrome
	[Symbol]	Joint civil and military Aerodrome
	[Symbol]	Abandoned or closed aerodrome
	[Symbol]	Emergency aerodrome or aerodrome with no facilities
	[Symbol]	Heliport
	[Symbol]	Helicopter landing site
	[Symbol]	Helicopter landing site
	[Symbol]	Helicopter landing site
	[Symbol]	Helicopter landing site
AIDS	[Symbol]	Non-directional radio beacon
	[Symbol]	Directional radio beacon
	[Symbol]	VOR
	[Symbol]	Distance measuring equipment
	[Symbol]	Collocated VOR and DME radio navigation aids
	[Symbol]	Collocated VOR and TACAN radio navigation aids
	[Symbol]	UNF tactical air navigation aid
	[Symbol]	Compass rose
	[Symbol]	Air Traffic Services (ATS)
	[Symbol]	Sector
TOPOGRAPHY	[Symbol]	Highest elevation on chart
	[Symbol]	Spot elevation
	[Symbol]	Index Contours
	[Symbol]	Intermediate Contours
	[Symbol]	Supplementary Contours
	[Symbol]	Cliff, off or escarpment
	[Symbol]	Transverse dunes
	[Symbol]	Star dunes
	[Symbol]	Ripple dunes
	[Symbol]	Linear dunes
HYDROGRAPHY	[Symbol]	Spring, well or water hole (perennial)
	[Symbol]	Spring, well or water hole (non-perennial)
	[Symbol]	Small river (perennial)
	[Symbol]	Small river (non-perennial)
	[Symbol]	Rivers and Streams
	[Symbol]	Wadi (non-perennial)
	[Symbol]	Wadi (perennial)
	[Symbol]	Shore line
	[Symbol]	Large river (perennial)
	[Symbol]	Large river (non-perennial)
BUILT UP AREAS	[Symbol]	Province capital
	[Symbol]	Town
	[Symbol]	Building
	[Symbol]	City or large town
	[Symbol]	Building
	[Symbol]	Building
	[Symbol]	Building
	[Symbol]	Building
	[Symbol]	Building
	[Symbol]	Building
WILDLANDS AND ROADS	[Symbol]	Dead highway
	[Symbol]	Primary road
	[Symbol]	Secondary road
	[Symbol]	Trail
	[Symbol]	Railroad
	[Symbol]	Railroad
	[Symbol]	Railroad
	[Symbol]	Railroad
	[Symbol]	Railroad
	[Symbol]	Railroad
RAILROADS	[Symbol]	Wind turbine - certified
	[Symbol]	Nuclear power station
	[Symbol]	Lookout tower
	[Symbol]	Mine
	[Symbol]	Ruin
	[Symbol]	Fort
	[Symbol]	Mine
	[Symbol]	Wind turbine - lighted
	[Symbol]	Landmark (Natural/Monument)
	[Symbol]	Landmark (Natural/Monument)
WILDLANDS AND ROADS	[Symbol]	Wind turbine - certified
	[Symbol]	Nuclear power station
	[Symbol]	Lookout tower
	[Symbol]	Mine
	[Symbol]	Ruin
	[Symbol]	Fort
	[Symbol]	Mine
	[Symbol]	Wind turbine - lighted
	[Symbol]	Landmark (Natural/Monument)
	[Symbol]	Landmark (Natural/Monument)

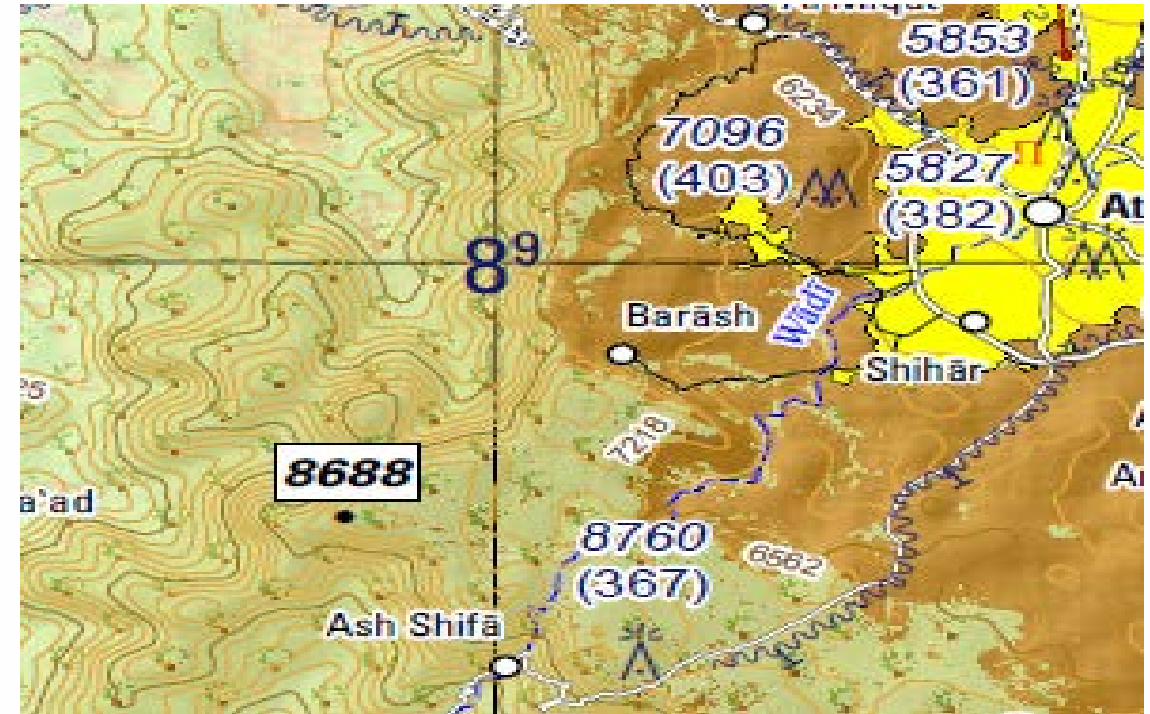
ATIS Airspace classification and description
The requirements for the flight within each class of airspace in JEDDAH FIR are shown in the following table:

Class	Type of flight	Separation provided	Service provided	ATIS available	ATIS service	ATIS service	ATIS service	ATIS service	ATIS service	ATIS service	ATIS service
A	IFR	ALL ENROUTE	ATIS service	No available	No available	No available	No available	No available	No available	No available	No available
B	IFR	ALL ENROUTE	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
D	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
E	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
G	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
H	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
I	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
J	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
K	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
L	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
O	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
P	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Q	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
T	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
U	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
V	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
W	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Y	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Z	IFR	IFR	ATIS service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

MAXIMUM LEVEL FOR VFR: The highest altitude at which a VFR flight may operate within JEDDAH FIR is 12 000 FT (see KSA AIP ENR 1.7 for transition procedure)

KSA Aeronautical Charts

Aeronautical Chart — ICAO 1:500 000



- Coverage of all Saudi Arabia airspace with aeronautical charts 1:500 000.
- eTOD Area 1 Published in the KSA eAIP .
- Aeronautical Charts are available with all formats (GEOTIFF, RASTER, PDF, MDB, MXD, ..)
- Integrity assurance when downloaded.

- The Maximum Elevation Figures (MEF) is based on available information about the highest known feature in each quadrangle, with an additional 200 feet added to account for possible vertical error.
- It is important to note that while the MEF is based on the best information available, it is not verified by field surveys.
- The MEF must not be considered as a minimum safe altitude.

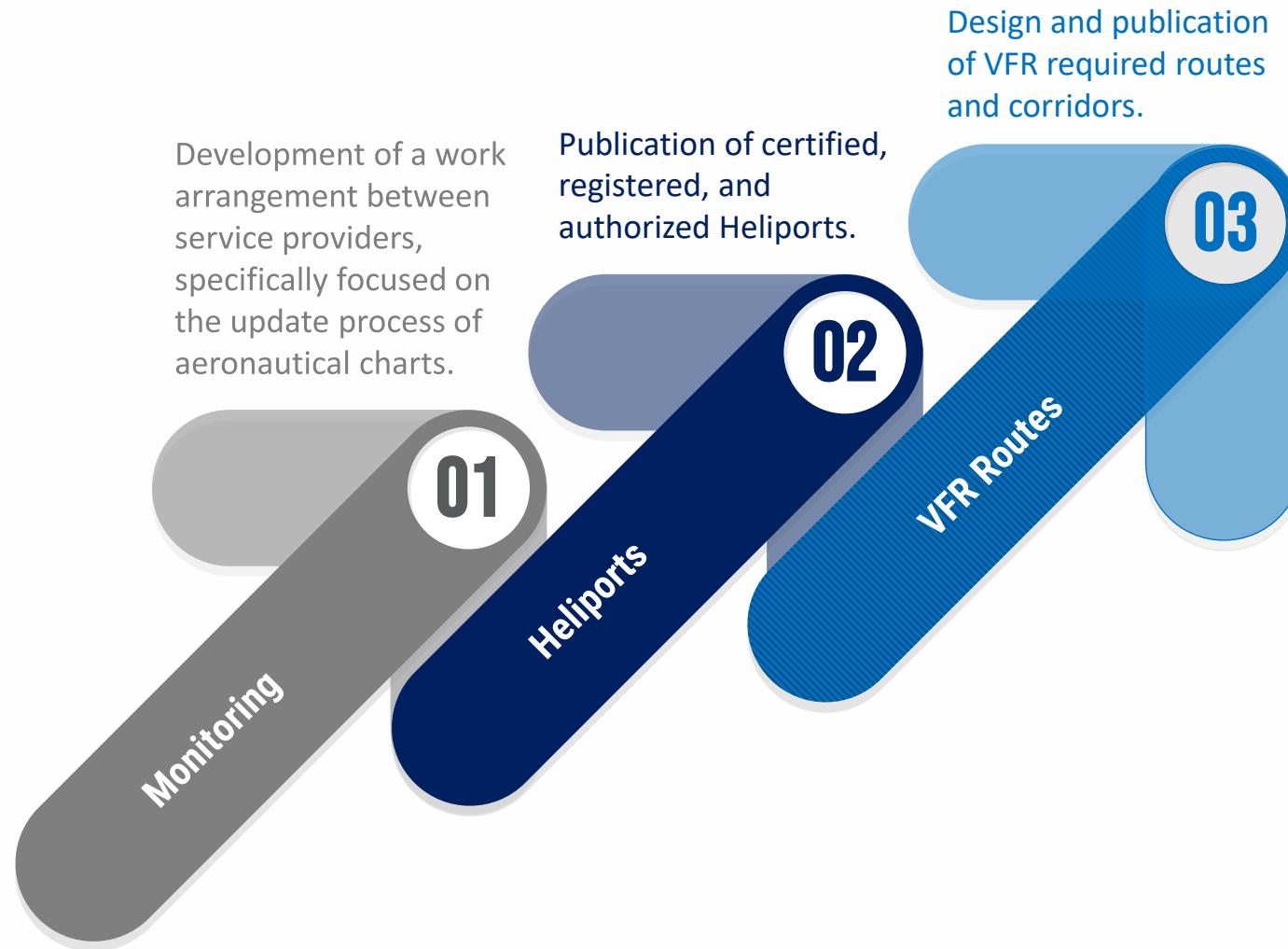
Maintenance of WAC and Aeronautical Charts - ICAO 1:500 000

- The aeronautical charts included in the Kingdom of Saudi Arabia AIP are kept up to date through amendments to the AIP. If incorrect information of operational significance is detected on published charts, it is corrected through NOTAM.
- Approximate period between revisions:
 - Base: 4 years
 - Aeronautical data: when a significant change occurs.
- Information regarding the planning or issuance of new charts is notified through Aeronautical Information Circular (AIC).

Limitation

- Pilots should be aware of the limitations of the WAC – ICAO 1:1 000 000 and Aeronautical Chart - ICAO 1:500 000, which include the following:
 - a) The charts may not reflect real-time changes such as temporary airspace restrictions or aerodrome closures. Pilots should consult NOTAM, AIP SUP, and the Kingdom of Saudi Arabia AIP for the most up-to-date information.
 - b) The level of detail provided on the charts may vary in certain regions. Pilots should exercise caution when operating in areas with limited chart coverage.
 - c) Information for territories outside of the Kingdom of Saudi Arabia is published for information only and has not been verified.

KSA Aeronautical Charts Future Plan



Challenges and Recommendations

Challenges

- Develop Aeronautical Charts that provide complete coverage of the Saudi airspace.
- Establish effective coordination mechanisms with the owners of obstacles in Aera 1 to facilitate timely updates and maintain safety standards..
- Developing in future a dynamic Aeronautical Chart — ICAO 1:500 000.

Recommendations

- Take notes of this presentaion.
- We recommend that the ICAO Mid office develops guidelines for the production of the Aeronautical Chart - ICAO 1:1000 000 (WAC) and 1:500 000. These guidelines should include a methodology for coordinating among states to ensure the updating and adjustment of the charts.

Thank You

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