AERONAUTICAL CHARTS

1. RESPONSIBLE SERVICES

The Aeronautical Information Service is the authority responsible for aeronautical charts production in Spain for civil and military aviation use.

Postal Address:
DIVISIÓN DE INFORMACIÓN AERONÁUTICA
c/ Campezo, 1. Edificio 2.
Kudos Innovation Campus Las Mercedes
28022 Madrid (SPAIN)
AFTN: LEANZXTA
TEL: +34-913 213 363
E-mail: ais@enaire.es
Web: www.enaire.es

All these publications are sent out by the Aeronautical Information Service.

The production of civil aeronautical charts is based on the standards, recommended practices and procedures contained in the following ICAO documents:

	Annex 4	Aeronautical Charts.
	Annex 15	Aeronautical Information Services.
	Doc. 8126 An 872/3	Aeronautical Information Services Manual.
	Doc. 8168 Ops/611-Vol.II	OPS-Aircraft Operations.
	Doc. 8697 An. 889/2	Aeronautical Charts Manual.

The production of military charts is based on the standards, recommended practices and procedures contained in the following STANAG and ICAO documents indicated before:

- STANAG 3759: Criteria for the preparation of Instrument Approach and Departure Procedures, AATCP-1.
- STANAG 3970: Content and format of aeronautical information publications, instrument Departure Procedures and aerodrome diagrams MIPS.

The differences from ICAO are indicated in the general description of each series.

On charts included in AIP-España, all obstacles higher than a 100 m high are grouped in accordance with the scale, regardless of the type of chart in question, and with the following criteria:

- on charts with a scale smaller than 1: 500 000, they will be grouped at 1 NM from the highest obstacle;
- on charts with a scale equal to or greater than 1: 500 000, but less than 1: 1 000 000, they will be grouped at 2 NM from the highest obstacle; and
- on charts with a scale equal to or greater than 1: 1 000 000, they will be grouped at 3 NM from the highest obstacle.

2. MAINTENANCE OF CHARTS

The aeronautical charts included in the AIP are regularly kept up-to-date or are replaced by amendments to the AIP.

Information found to be incorrect after publication and urgent modification when of operational significance will be published

by NOTAM referring to the chart affected; if the change is not of operational significance it will be published by handwritten correction to the AIP.

Revision of the aeronautical information on all charts is constantly in progress and amended reprints are published as regularly as production resources permit. Topographical and hydrographical information data portrayed are also revised when necessary.

When a change of operational significance in the procedures of the charts takes place, a new edition is published, and is distributed by the AIRAC system.

The changes without operational significance are published by regular amendment to AIP, SUP or handwritten correction to AIP.

3. PURCHASE ARRANGEMENTS

The purchase arrangements of aeronautical charts are indicated in paragraph 3.6 of section GEN 3.1.

4. AERONAUTICAL CHART SERIES AVAILABLE

NOTE: In the tabular description table, of the different procedures, the symbol @ mean "MANDATORY".

4.1 Types of charts available

The following charts are available at the Aeronautical Information Service:

- Enroute Chart.
- Area Chart - ICAO.
- Aerodrome/Heliport Chart (ADC/HELC) - ICAO.
- Aircraft Parking/Docking Chart (PDC) - ICAO.
- Aerodrome Ground Movement Chart (GMC) - ICAO.
- Aerodrome Obstacle Chart (AOC) - Type A ICAO.
- Precision Approach Terrain Chart (PATC) - ICAO.
- Standard Departure Chart-Instrument (SID) - ICAO.
- Departure Instrument Chart - MIPS (former APATC-1, AATCP-1(B) and AATCP-1(C)).
- Standard Arrival Chart-Instrument (STAR) - ICAO.
- Arrival Chart Instrument - Continuous descent (CDA)
- Arrival Chart Instrument - Continuous descent (CDA) - MIPS
- Arrival Chart Instrument - MIPS (former AATCP-1(C)).
- Chart of Transition to final approach - instrument (TRAN).
- Instrument Approach Chart (IAC) - ICAO.
- Instrument Approach Chart - MIPS (former AATCP-1(B) and AATCP-1(C)).
- ATC Surveillance Minimum Altitude Chart (ATCSMAC) - ICAO.
- Visual manoeuvring (in circuit) based on prescribed tracks - ICAO (VPT)
- Visual Approach Chart (VAC) - ICAO.
- Aeronautical Chart - ICAO 1:500 000.
- TMA VFR traffic Chart.
- Other VFR charts.

- FRA chart.

4.2 General description of each series

Aeronautical ground lights - en-route

This chart facilitates information about the aeronautical ground lights and other beacons which designate the geographic positions selected by the State as significant, identified with the name of the city, settlement or other appropriate identification.

Chart of priority areas to avoid on private flights

On this chart, the areas to avoid on flights of private aircraft and the areas of risk for air navigation are displayed.

It is published in colour.

The published data are facilitated by the Ministerio de Agricultura, Pesca y Alimentación.

Bird concentration chart

On this chart, the wetland areas where aquatic birds and other species overwinter are displayed.

It is published in colour.

The published data are facilitated by the Ministerio de Agricultura, Pesca y Alimentación.

Vulture and stork presence chart

This chart shows the areas with significant presence of vultures and storks.

It is published in colour.

The published data are facilitated by the Ministerio de Agricultura, Pesca y Alimentación.

Enroute Chart. (Electronic)

Electronic Enroute charts in digital format can be consulted at the following link:

insignia.enaire.es.

On these charts, we can view airways, radio aids, aerodromes, P, R and D areas, reporting points, FIR, TMA, AMA, distances, magnetic headings and other information that can be used for IFR navigation.

Area Chart - ICAO

Several types of charts are published:

- Inbound routes.
- Outbound routes.

These charts provide information about the procedures to be followed by an aircraft flying IFR within Spanish TMA limits in Spanish territory. Their purpose is to provide information about the transition between:

- The en-route to the approach phase.
- The take-off to the en-route phase.

Scale: 1:2 000 000 although it may vary according to the area to be covered.

Projection: Lambert conformal.

These charts show all the aerodromes affected by the terminal routings as well as runways, radio-navigation aids,

radiocommunication frequencies, reporting points, distances, holding patterns, bearings, P, D, R areas, etc.

When there are a lot of information to be published and its inclusion in a sole chart could be confusing, the holding patterns are published in a different chart.

This chart is published in colours.

Aerodrome/Heliport Chart (ADC/HELC) - ICAO

This chart provides the necessary information for the ground movement of aircraft/helicopters and operational information at the aerodrome/heliport.

It is made for all aerodromes/heliports listed in AD 0.6.

Scale: Between 1:7 000 and 1:25 000 depending on the dimensions and area to be covered.

Aeronautical data published in this chart are in accordance to the specifications of Annex 4.

Aircraft Parking/Docking Chart (PDC) - ICAO

This chart provides detailed information for the ground movement of aircraft between taxiways and aircraft parking stands and parking/docking.

Scale: Between 1:3 000 and 1:10 000 generally.

In this chart are indicated the aprons with their parking stands, strength, lighting, markings and other guidance and control aids for the aircraft.

It is made for those aerodromes which require so due to their large amount of information.

Aerodrome Ground Movement Chart (GMC) - ICAO

This chart provides information about the ground movement of aircraft along the taxiways to/from the parking and docking stands. In this chart are indicated the runway and taxiway segment designators.

Scale: Between 1:10 000 and 1:30 000 generally.

This chart is made out for those aerodromes with so much information that can not be included in the Aerodrome chart ICAO. Data published in this chart are in accordance to the specifications of Annex 4.

Aerodrome Obstacle Chart (AOC) - Type A ICAO

This chart provides the necessary data in order to comply with the operating limitations of an aerodrome.

The horizontal scale used varies between 1:10 000 and 1:50 000.

The vertical scale is ten times the horizontal scale. This chart includes the declared distances for each direction of the runway, take-off flight path area, obstacles within this area, magnetic variation, etc.

Precision Approach Terrain Chart (PATC) - ICAO

This chart provides information about the terrain profile within a defined portion of the final approach area corresponding to runways where a precision approach CAT II and III can be done.

The horizontal scale is 1:2 500 or 1:5 000 and the vertical one is 1:500.

The aeronautical data published in this chart are in accordance with the specifications of Annex 4.

Standard Departure Chart-Instrument (SID) - ICAO

These charts are intended for aircraft operating IFR. They provide information about the routes to be flown from the take-off to the en-route phase.

Scale: Between 1:1 500 000 and 1:200 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunications frequencies, bearings, distances, exit reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Departure Instrument Chart - MIPS (former APATC-1, AATCP-1(B) and AATCP-1(C))

These charts are intended for military aircraft operating IFR. They provide information about the routes to be flown from the take-off to the en-route phase.

Scale: Between 1:1 000 000 and 1:250 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunications frequencies, bearings, distances, exit reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Departure routes Chart - OIFR/OVFR corridors - MIPS (former AATCP-1(C))

These charts are intended for military aircraft operating IFR/VFR. They provide information about the routes to be flown from the take-off to the en-route phase.

Scale: 1:1 250 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunications frequencies, bearings, distances, exit reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Standard Arrival Chart-Instrument (STAR) - ICAO

These charts are intended for aircraft operating IFR. They provide information about the routes to be flown from the en-route to the approach phase.

Scale: Between 1:1 500 000 and 1:500 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunication frequencies, bearings, distances, entry reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Arrival Chart Instrument - Continuous Descent (CDA)

These charts are intended for aircraft operating IFR. They provide information about the routes to be flown from the en-route to the approach phase. Also provides additional information of distance of arrival procedure, following by the instrumental approach procedure indicated, from the reporting points to the threshold.

Basically, procedures will be based on the application of the current STAR procedures, but eliminating their speed and altitude restrictions, except for the safety minima altitudes.

Scale: Between 1:1 500 000 and 1:500 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunication frequencies, bearings, distances,

entry reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Arrival Chart Instrument - Continuous Descent (CDA) - MIPS

These charts are intended for aircraft operating IFR. They provide information about the routes to be flown from the en-route to the approach phase. Also provides additional information of distance of arrival procedure, following by the instrumental approach procedure indicated, from the reporting points to the threshold.

Scale: Between 1:1 500 000 and 1:500 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunication frequencies, bearings, distances, entry reporting points, minimum flight altitudes, P, D, R areas, etc.

This chart is published in colours.

Arrival Chart Instrument - MIPS (former AATCP-1(C))

These charts are intended for military aircraft operating IFR. They provide information about the routes to be flown from the en-route to the approach phase.

Scale: 1:1 000 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunications frequencies, bearings, distances entry reporting points, minimum flight altitudes, P, D, R, areas, etc.

This chart is published in colours.

Arrival routes Chart - OIFR/OVFR corridors - MIPS (former AATCP-1(C))

These charts are intended for military aircraft operating IFR/VFR.They provide information about the routes to be flown from the en-route to the approach phase.

Scale: 1:1 250 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunications frequencies, bearings, distances entry reporting points, minimum flight altitudes, P, D, R, areas, etc.

This chart is published in colours.

Chart of Transition to final approach – Instrument (TRAN)

These charts contain manoeuvres which consist of RNAV1 instrument procedures called “transitions” associated to sections in the shape of a trombone and are a systematic method for sequencing the flows of arrivals, used at different high-density airports.

An RNAV transition is a published procedure consisting of: 1 initial segment, 1 outbound leg and 1 inbound leg, which links a STAR (from an IAF or some earlier point) to a point from which it is possible to accomplish the final approach segment of an approach procedure to the ILS or equivalent approach that may exist at the airport.

Scale: 1:500 000.

Projection: Lambert conformal.

They contain aeronautical information about radionavigation aids, radiocommunication frequencies, magnetic and geographical bearings, distances, entry-reporting points, minimum flight altitudes, speed restrictions, P, D, R areas, etc.

This chart is published in colours.

Instrument Approach Chart (IAC) - ICAO

Chart for instrumental navigation. It provides the necessary information to carry out the instrument approach procedures to the intended landing runway including the missed approach procedure and holding patterns.

It is made out for all aerodromes where instrument approach procedures are established. An approach chart is published for each procedure.

Scale: Between 1:750 000 and 1:250 000.

Projection: Lambert conformal.

Besides the aeronautical data necessary for the instrumental navigation, the chart shows topographical data by spot elevations and contours.

When the ground topography exceeds in less than 1000 ft the AD elevation, then is indicated only by the most significant spot elevations.

It is published in colours.

Sometimes, a side step manoeuvre has to be executed in the approach procedure:

- This is a visual manoeuvre accomplished at the ending of an instrument approach procedure that allows to land directly onto a parallel runway located at 1200 ft or less at each side of the main runway for which the approach clearance was first authorized.
- These minimums are higher than those for direct approach to the main runway but lower to those of the circuit.

Example of phraseology to be used: "Cleared for ILS RWY 03L, side step to RWY 03R".

Instrument Approach Chart - MIPS (former AATCP-1(B) and AATCP-1(C))

This chart is of exclusive military use and basically has the same characteristics as the instrument approach chart ICAO. The difference with the aforementioned chart is that the STA and circuit altitudes/heights are minimum descent altitudes/heights for non-precision approach and decision altitudes/heights for precision approach as shown in the following table:

<table>
<tr><th>CATEGORY</th><th>A</th><th>B</th><th>C</th><th>D</th></tr>
<tr><td>(Precision)
DIRECT
(Non precision)</td><td>DA/VIS
0000/ o.o
MDA/VIS</td><td colspan="2">DH (TECHO-VIS)
000 (ooo-o.o)
MDH (TECHO-VIS)</td><td rowspan="2">0000/ o.o
000
(ooo-o.o)</td></tr>
<tr><td>CIRCUIT</td><td colspan="3">0000/ o.o
000 (ooo-o.o)</td></tr>
</table>

There are two types of charts:

- Low level.
- High level.

ATC Surveillance Minimum Altitude Chart (ATCSMAC) - ICAO

Charts intended for aircraft operating where vectoring procedures are established, and will enable flight crews to monitor and cross-check altitudes assigned by a controller using an ATS surveillance system.

Scale: 1:250 000 or other different scales if required by the area to be represented.

Projection: Lambert conformal.

In these charts are represented all aerodromes that affect the terminal routings, the elevation of the primary aerodrome, prohibited, restricted and danger areas, appropriate spot elevations and obstacles.

Air traffic services system: Radio navigation aids together with their identifications, lateral limits of relevant designated

airspace, significant points associated with standard instrument procedures, transition altitude.

Information associated with radar vectoring: radar minimum altitude sectors, distance circles, notes concerning correction for low temperature effect.

Radio communications procedures including call signs and frequencies of approach/radar units.

Generalized shorelines of all open water areas, large lakes and rivers shall be shown.

Visual manoeuvring (in circuit) based on prescribed tracks - ICAO (VPT)

This chart is designed for aircraft which, emerging from an instrument manoeuvre and having established visual references appropriate to the runway and terrain, join a visual circuit with prescribed paths for the final descent to the corresponding threshold.

Scale: 1:100 000 or at a different scale when displaying the manoeuvre requires this.

Projection: Lambert conformal.

On this chart, the points represented are easily identifiable as visual references. Critical obstacles for the manoeuvre are also shown.

Other data are included, such as: villages, reservoirs, mines, rivers, etc.

Relief is indicated using spot elevations and contour lines.

It is published in colour.

Visual Approach Chart (VAC) - ICAO

Chart intended for aircraft operating VFR. It provides the necessary information to pass from the en-route flight and descent phase, to the approach to the expected landing runway.

Scale: 1:250 000 or other different scales if required by the area to be represented.

Projection: Lambert conformal.

In this chart are represented the control zone and the aerodrome traffic zone of the appropriate AD, as well as the radio-navigation aids location, radio communications frequencies, visual reference and reporting points, the significant obstacles, inbound VFR procedures, P, D, R areas, communications failure holdings, etc.

They include other data like: constructions, roads, dams, mines, rivers as well as any other that can help as a visual reference.

Relief is indicated by spot elevations and contour lines.

The location and type of the visual approach slope indicator systems are not shown.

It is published in colours.

TMA VFR traffic chart. (Electronic)

Electronic TMA VFR traffic chart in digital format can be consulted at the following link:

https://insigniavfr.enaire.es/

Chart intended for aircraft flying under visual flight rules and operating within a TMA.

These charts show all air spaces and P, R and D areas below FL195, as well as the topographic and aeronautical data necessary for the preparation of a visual flight.

Other VFR charts

Chart intended for aircraft flying under visual flight rules overflying terminal control areas, or for military aircraft operating VFR. It provides the necessary information to fly in the nearby areas.

Scale: 1:250 000 or other different scales if required by the area to be represented.

Projection: Lambert conformal.

In this chart are represented the control zone and the aerodrome traffic zone of the appropriate AD, as well as the radio-navigation aids location, radio communications frequencies, visual reference and reporting points, the significant obstacles, inbound VFR procedures, P, D, R areas, communications failure holdings, etc.

They include other data like: constructions, roads, dams, mines, rivers as well as any other that can help as a visual reference.

Relief is indicated by spot elevations and contour lines.

The location and type of the visual approach slope indicator systems are not shown.

It is published in colours.

Aeronautical Chart - ICAO 1:500 000

These charts are intented for aircraft operating VFR with a low speed and at a low altitude. They are published as a set of 7 sheets which cover the entire Spanish airspace.

Scale: 1:500 000

Projection: Lambert conformal.

Automecoico parallels: Peninsula: 37° and 42° N. Canary Islands: 24° and 29° N.

These charts show all the airspaces and P, R and D areas below FL195, as well as the topographic and aeronautical data necessary for the preparation of a visual flight.

These charts are published in colours.

4.3 Charts included in AIP-ESPAÑA

ENR 1:

- Radar area coverage chart.

ENR 4:

- Aeronautical ground lights-en-route.

ENR 5:

- Chart of priority areas to be avoided in private flights.
- Chart of birds concentration.
- Vulture and stork presence chart.

ENR 6:

- Enroute chart.
- Speed reduction area chart.
- Sectors chart.
- ATC Surveillance Minimum Altitude Chart (ATCSMAC) - ICAO in TMA.
- TMA VFR traffic chart.
- FRA chart.
- Flight plan buffer zones chart (FBZ).
- Transponder mandatory zones chart (TMZ).
- Radio mandatory zones chart (RMZ).

AD 1:

- Aerodromes and heliports chart.
- Restricted aerodromes chart.
- Restricted heliports chart.

AD 2:

- Aerodrome Chart (ADC) - ICAO.
- Aircraft Parking/Docking Chart (PDC) - ICAO.
- Aerodrome Ground Movement Chart (GMC) - ICAO.
- Aerodrome Obstacles Chart (AOC) - Type A ICAO.
- Aerodrome Obstacles Chart (AOC) - Type A.
- Precision Approach Terrain Chart (PATC) - ICAO.
- Standard Departure Chart-Instrument (SID) - ICAO.
- Departure Instrument Chart - MIPS (former APATC-1, AATCP-1(B) and AATCP-1(C)).
- Departure routes Chart - OIFR/OVFR corridors - AATCP-1(C) (Exclusive military use).
- Standard Arrival Chart-Instrument (STAR) - ICAO.
- Arrival Chart Instrument - Continuous Descent (CDA)
- Arrival Chart Instrument - MIPS (former AATCP-1(C)).
- Arrival routes Chart - OIFR/OVFR corridors - AATCP-1(C) (Exclusive military use).
- Chart of Transition to final approach - instrument (TRAN).
- Instrument Approach Chart (IAC) - ICAO.
- Instrument Approach Chart - (IAC) - MIPS (former AATCP-1(B) and AATCP-1(C)).
- ATC Surveillance Minimum Altitude Chart (ATCSMAC) - ICAO.
- Area chart inbound routes - ICAO.
- Area chart outbound routes - ICAO.
- Visual Approach Chart (VAC) - ICAO.
- Visual manoeuvring (in circuit) based on prescribed tracks - ICAO (VPT).
- VFR corridors chart.

AD 3:

- Heliport Chart (HELC).
- Heliport obstacles chart (AOC).

5. LIST OF AERONAUTICAL CHARTS AVAILABLE

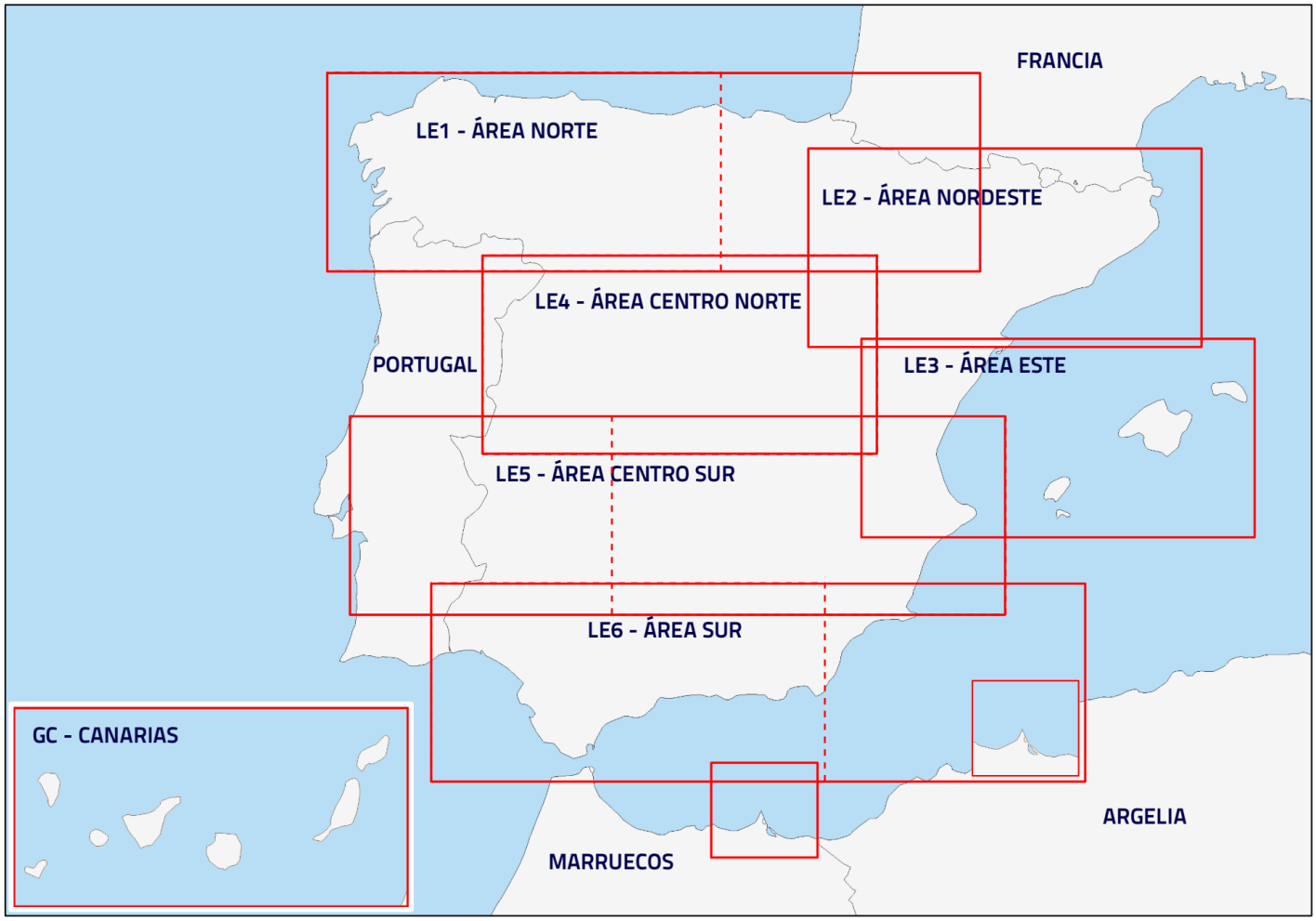
The available charts relating to the ENR and AD sections can be found within the corresponding sections of the AIP. See the list in section 4.3 Charts included in the AIPESPAÑA.

The charts relating to an aerodrome can be found in the index of the AIP under the corresponding aerodrome.

Prices for charts and series are reviewed annually and are available in AIP part GEN 3.1 and in AIC.

Revision dates can be consulted in part GEN 0.4 “Checklist of AIP pages” and in each chart itself.

6. INDEX OF THE AERONAUTICAL CHARTS - 1: 500 000



7. TOPOGRAPHICAL CHARTS

No.

8. CORRECTIONS TO CHARTS NOT CONTAINED IN THE AIP

Check the latest information published in parts GEN 2.5 and ENR 4.1 to update information on navaids, as well as in part ENR 5 to update the information about areas, air navigation obstructions, activities of a dangerous nature, aerial sporting and air navigation warnings.