CATALOGUE OF THE PASSES IN SPAIN

1. This Catalogue

This catalogue, which covers all the passes that have been found and listed in Spain, supersedes and updates the previous catalogues of this country (road passes, Catalonia, Navarra) as well as any previous lists that have been used in the past. Later it will be extended into Portugal to constitute a complete catalogue of the Iberian peninsula as well as the islands and exclaves (Llivia, Ceuta and Melilla) of these countries.

2. Physical and Geographical presentation of Spain

Situated in Western Europe, Spain occupies most of the Iberian peninsula and additionally two archipelagos (the Canary islands in the Atlantic Ocean and the Balearic Islands in the Mediterranean Sea) as well as two towns (Ceuta and Melilla) in the North of Morocco.

This is the country in Europe with the 4th largest land area after Russia, Ukraine and France and the second largest in the European Union.

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3. Continental Spain

The highest point of continental Spain is Mount Mulhacén (from 3478 to 3482 m. high according to the different sources) situated in the South of Spain in the Sierra Nevada chain. Much of Spain is covered by the Meseta plateau in the centre of the country, flanked by mountain chains. The valleys are narrow and situated near the coast or rivers.
The main mountain ranges in continental Spain are the Pyrenees, the Iberian range, the Cantabrian cordillera, the central range and the Baetic cordilleras whereof the sub-ranges and most significant points are :

Pyrenees (Pic d'Aneto (3404 m.); Pico Posets (3375 m.); Pica d'Estats (3115 m.) and Pre-Pyrenees (Sierra del Cadí) (2642m.)
Iberian system (Sistema Ibérico) : sierras de la Demanda et d'Urbion, sierra del Moncayo, alto Tajo, serrania de Cuenca et Montes Universales
Cantabrian cordillera : macizo Asturianos, montañas de Cantabria (Picos de Europa, Pico Tres Mares), montes Vascos ;
Central system : of which the main ranges are, from East to West, Sierra de Somosierra, Sierra de Guadarrama, Sierra de Ávila, Sierra de Villafranca, Sierra de Gredos, Sierra de Béjar, and that one can consider finishes with la Sierra de Estrella in Portugal ;
Baetic cordilleras (Cordilleras Béticas) : including Serranía de Ronda, Sierra Nevada, Sierra de Baza, Sierra de Cazorla, Sierra Sur de Jaén, Sierra de Huétor, Sierra de Segura

Sistema	Cordillera	Punto más elevado	Altitu (msnm)
Cantábrico	Picos de Europa Macizo Galaico Montes Vascos	Torre de Cerredo Segundera Aitxuri	2648 2047 1551
Pirinaico	Prepirineos Pirineos Navarros Pirineos Aragoneses Pirineos Catalanes	 Pico Aneto Pica d'Estats	 3404 3143
Costero Catalan Cordillera Prelitoral	Cordillera Litoral Montseny	Turó Gros	773 1712
Ibérico	Sierra del Moncayo Sierra de la Demanda Picos de Urbión Sierra de Albarracín	Moncayo Monte San Lorenzo Monte Urbión	2316 2270 2228
Central	Sierra de Gredos Sierra de Guadarrama Sierra de Ayllón Sierra de Béjar Sierra de Gata	Pico Almanzor Peñalara Pico del Lobo Jálama	2592 2428 2272 1492
Toledo	Sierra de Guadalupe	Pico Villuercas	1601
Sierra Morena	Sierra Madrona Sierra de Aracena Sierra Hornachuelos	Bañuelas	1324

Sistema	Cordillera	Punto más elevado	Altitu (msnm)
Subbético	Sierra de Cazorla	Empanadas	2106
	Sierras OrceMaría		2045
	Sierra de Huétor	Peñón de la Cruz	2027
	Sierra de Castril	Pico el Buitre	2013
	Sierra de Segura	Las Banderillas	1993
	Sierra Sur de Jaén	Pandera	1872
	Sierra de Grazalema	Pico del Pinar	1654
	Sierra Las Estancias		
Prebético		Sierra de La Sagra	2382
Penibético	Sierra Nevada	Mulhacén	3480
	Sierras BazaFilabres	Santa Bárbara	2269
	Sierra de Gádor	Launilla	2249
	Sierra de las Nieves	Torrecilla	1919
	Sierra Espuña	Morrón de Totana	1585

4. The Islands of Spain

The great majority of the islands of Spain is constituted of the Balearic and Canary archipelagos.
The former, situated in the West of the Mediterranean sea, is made up of the islands of Mallorca, Minorca, Ibiza, Formentera, Cabrera.
The latter, situated further South, in the Atlantic Ocean near the African coast is made up of the islands of Lanzarote, Fuerteventura, Gran Canaria, Tenerife, Gomera, Palma, Hierro and a few islets. This volcanic archipelago is characterised by high summits - the main ones being el Teide (Tenerife) 3715 m (the highest summit of Spain), el Roque de los Muchachos (La Palma) 2423 m, el Pico de las Nieves (Gran Canaria) 1949 m. The Canaries have 25 passes above 2000m..

5. The History of Spain

Human beings entered the Iberian peninsula some 32000 years ago. Different peoples and cultures then followed : the Iberians, the Celts, the Phoenicians, the Greeks, the Carthaginians, the Romans and the Visigoths. Finally the Moors invaded in 711 and conquered nearly all of the peninsula. The domain under Muslim control was called Al-Andalus. At the end of a period lasting more than 7 centuries the Christian kingdoms in the North began to reconquer the peninsula - slowly and lengthily - a process called "la Reconquista" which was finalised in 1492 with the fall of Granada. The Kingdom of Spain was created that same year with the unification of the Kingdoms of Castilla and Aragón.

6. The languages and dialects of Spain

These turbulent periods have left a wide variety of languages and dialects as well as a strong feeling of autonomy in the outer fringes of the country.

In addition to the national language - Castellano - often called "Spanish" - several regional languages are officially recognised :

Aranés - a variety of Gascon which is itself a variety of Occitan
Basque - the only non-roman language in the Iberian peninsula
Catalan
Gallego - a language with the same roots as Portuguese

Several unofficial regional languages are spoken by minorities in the respective provinces :

Aragonés
Asturiano
Leonés

as well as a certain number of dialects including those of Andalusia and the Canaries.

One can see the spread of these languages in the diagram below and one can find traces of these languages in the toponyms and their local variants.

Source : Centro Nacional de Información Geográfica

7. Adminstrative structure

Spain is made up of a Central State and 3 levels of Local Administration :

- 17 Autonomous communities (Comunidad autónoma) ;
- 50 provinces (provincia) (see map below)
- 8112 municipalities (municipio).

Comunidade Autónoma	Códig de Comunid. Autónoma	Provincia	Códig provincial	Número de puertos pavimentados	Número de puertos de herradura
Andalucía	AN	Almería	ES-AL	58	254
Andalucía	AN	Cádiz	ES-CA	62	195
Andalucía	AN	Córdoba	ES-CO	29	73
Andalucía	AN	Granada	ES-GR	44	306
Andalucía	AN	Huelva	ES-H	52	201
Andalucía	AN	Jaén	ES-J	42	317
Andalucía	AN	Málaga	ES-MA	53	190
Andalucía	AN	Sevilla	ES-SE	33	35

Comunidade Autónoma	Códig de Comunid. Autónoma	Provincia	Código provincial	Número de puertos pavimentados	Número de puertos de herradura
Aragón	AR	Huesca	ES-HU	47	894
Aragón	AR	Teruel	ES-TE	77	288
Aragón	AR	Zaragoza	ES-Z	37	216
Principado de Asturias	O	Asturias	ES-O	112	932
Canarias	CN	Las Palmas	ES-GC	66	298
Canarias	CN	Santa Cruz de Tenerife	ES-TF	57	211
Cantabria	S	Cantabria	ES-S	34	190
Castilla-La Mancha	CM	Albacete	ES-AB	33	187
Castilla-La Mancha	CM	Ciudad Real	ES-CR	49	431
Castilla-La Mancha	CM	Cuenca	ES-CU	50	364
Castilla-La Mancha	CM	Guadalajara	ES-GU	27	241
Castilla-La Mancha	CM	Toledo	ES-TO	11	77
Castilla y León	CL	Ávila	ES-AV	27	229
Castilla y León	CL	Burgos	ES-BU	48	203
Castilla y León	CL	León	ES-LE	53	724
Castilla y León	CL	Palencia	ES-P	9	71
Castilla y León	CL	Salamanca	ES-SA	7	31
Castilla y León	CL	Segovia	ES-SG	3	23
Castilla y León	CL	Soria	ES-SO	42	145
Castilla y León	CL	Valladolid	ES-VA	3	15
Castilla y León	CL	Zamora	ES-ZA	6	23
Catalunya	CT	Barcelona	ES-B	213	1218
Catalunya	CT	Girona	ES-GI	122	1248
Catalunya	CT	Lleida	ES-L	94	1289
Catalunya	CT	Tarragona	ES-T	117	620
Ceuta	CE	Ceuta	ES-CE	1	0
Extremadura	EX	Badajoz	ES-BA	55	283
Extremadura	EX	Cáceres	ES-CC	87	518
Galicia	GA	A Coruña	ES-C	19	39
Galicia	GA	Lugo	ES-LU	55	73
Galicia	GA	Ourense	ES-OR	72	142
Galicia	GA	Pontevedra	ES-PO	32	80
Islas Baleares	IB	Islas Baleares	ES-PM	77	316
La Rioja	LO	La Rioja	ES-LO	10	97
Madrid	M	Madrid	ES-M	35	172
Melilla	ML	Melilla	ES-ML	0	0
Murcia	MU	Murcia	ES-MU	56	369
Navarra	NA	Navarra	ES-NA	101	651
País Vasco	PV	Álava	ES-VI	18	112

Comunidade Autónomas	Códig de Comunid. Autónoma	Provincia	Código provincial	Número de puertos pavimentados	Número de puertos de herradura
País Vasco	PV	Guipúzcoa	ES-SS	41	172
País Vasco	PV	Vizcaya	ES-BI	30	52
Valencia	VC	Alicante	ES-A	41	154
Valencia	VC	Castellón	ES-CS	59	290
Valencia	VC	Valencia	ES-V	66	336

8. Definition of "Pass" and the descriptors/feature-names that have been accepted

The "Rules of the Game" of the Club des Cent Cols have been scrupulously respected in putting together this catalogue. "The Catalogue includes all Passes, bearing this name or its local, regional or national equivalent, shown (or having been shown) on cartographic or other documentary sources that the Club considers as reliable" (Rules of the Game).
"In view of the many different types of geographical terrain that can be encountered the minimal definition of the topographical nature of a Pass that has been taken into account by the Club is the following : prominent crossing point of a watershed (other than a summit) dictated by the nature of the terrain" (Annexe to the Rules of the Game).

9. Descriptors that have been accepted as giving a name to a Pass in Spain

We have classified the descriptors/feature names in the catalogue in 3 categories :

1) Words which can be translated directly by "col" in castellano (the national language in Spain) or in one of the regional languages of the country. The 3 main words in castellano to translate "col" are collado, puerto and paso - each with somewhat different nuances and the other words in this category reflect in their definitions one of this main trio. Statistically these toponyms, in the context of mountainous terrain, are topographic passes to an overwhelming extent. The definitions are provided by respectable lexical sources - such as the national dictionary of Spain published by the Real Academia Española.

2) Descriptors that describe passes in a more metaphorical way. The first meaning of these words can be a tool or an anatomical form (fork, saddle, mouth) but habitually in mountainous terrain they are associated with a geographical characteristic. This practice is confirmed by them being classified as "paso/collado/puerto" in the database of the Spanish Geographical Institute (the CNIG) and the instances that we have accepted do not leave any doubt about the feature that is being described. These cases are less numerous than the big families of paso/collado/puerto and can be counted in tens for each descriptor rather than the hundreds or thousands for the more orthodox descriptors.

3) Descriptors - mainly one descriptor in fact - which are ambiguous and which could just as well describe a pass as another characteristic of the terrain. The main case here is "Alto" defined by the RAE as "elevated place in the countryside such as a "col" or a hill". The equivalents in basque and in catalan are "gaina/gane/gain" and "alt". Statistically most of these geographical features are not passes and we have only accepted the cases classified by the CNIG as "col" and where the detailed maps do not clearly indicate another interpretation. We find ourselves here in a similar situation to "Collet" in France or "Colle" in Italy.

4) The remaining references include a "descriptor" most often linked with a region, either by virtue of its use or derived from the local languages : gollada and degollada (Canaries), lepoa and mendatea (Basque country)

The other descriptors considered have not been accepted since we have found no clear link with the concept of "col".

One descriptor which gave rise to a more detailed study is "Creu" in Catalonia. This descriptor appears in the catalogue of Catalonia since the first edition. The main meaning of this word is "Cross" but one can find a slight indirect sense of fork or junction which could suggest a dividing point between mountain ranges. The databases of the CNIG and the ICC classify some "Creu" as "col" and the type-face used is sometimes the same as those of oronyms. One of the private publishers of maps in this region (Alpina) attributes a pass-type symbol >< to some of these "Creu".

The Club has decided to not accept "Creu" for future passes in the addenda to the catalogue - finding that the inherent meaning of "col" is weak but above all after having received an opinion from the Manager of Toponymy at the ICC who wrote to us "*the word "creu" does not designate explicitly or directly an orographic feature. It is true that in many toponyms this generic word seems to be allocated to a pass or a crossroads - or also a summit - but it is almost certain that present-day place-names including "creu" owe their origin to a cross that could be found there in historical times*".

Nonetheless and considering the remaining arguments in favour of this toponym - listed previously - it has been decided not to remove the 30 or so cases inherited from the catalan catalogue.

Note that it is not at all unusual to find different "descriptors" or names for the same pass according to the source that is consulted. As far as possible these different variants have been listed in the Catalogue.

Descriptors considered as acceptable are listed below (which does not mean that in all cases the toponym gives a name to a pass as such).

C = Catalan, G = Gallego, V = Basque, A = Aranés, F = French, As = Asturiano, Cn = Canarias Arag = Aragonés

Descriptor	**Variants**	**Meaning of the word**
Achar (Arag)		Narrow pass between mountains
Alto	Alt (C), Altéron, Altico (C) , Altillo, Altillos, Altiño (G), Altos	Elevated place in the countryside such as a "col" or a hill.
Angostura	Angosturas	Narrow pass (also gorge or defile)
Boca	Apertadura (G), Bocalete, Bocas (G), Bocazal, Boqueira, Boquera, Boqueras, Boquero, Boquerón, Boqueros, Boqueta, Boquete, Boquetes, Boquierón (G), Boquilla, Embocadero	Mouth, opening, entrance
Brecha	Bretxa (C), Breca	Breach, narrow pass between mountains
Canal	Canaliza	Long, narrow furrow between 2 mountains
Coll (C)	Col (F), Còlh (A), Colhada (C), Collabàs (C), Collades (C), Colladet (C), Colladetes (C),	Pass

	Colladó (C), Colls (C), Còth (A)	
Collado	Cochà (As), Collá, Collada, Colladas, Colladejo, Colladejo, Colladeta, Colladetas, Colladico, Colladicos, Colladiella, Colladilla, Colladillas, Colladillo, Colladillos, Colladín, Colladina, Colladinas, Colladines, Colladio, Colladito, Colladitos, Colladón (As), Colladona (As), Collados, Colladura, Collacts, Collaillas, Collaillo, Collaína, Collaitos (V) , Collao, Collaona, Collaos, Collarao, Collarón, Collarrasco, Collata, Collau, Collell	Pass
Congosto		Pass, small trough in the terrain between 2 mountains
Coret (A)	Coreth (A)	Small pass, narrow pass
Cuello	Cuellada, Cuellos	Pass, neck, collar
Degollada (Cn)	Degolada (Cn), Degolladas (Cn), Degolladera (Cn), Degolladita (Cn), Degollado (Cn), Golada (G), Golado (G), Goladó, (G), Gollada (Cn)	Trough in the terrain between 2 mountains
Entallón		Notch, nick
Escobio (G)		Narrow pass in a mountain
Escotillón (Cn)		Door, opening in a barrier or a wall
Estrecho	Estret (C)	Narrow pass between 2 ranges
Forat (C)		Opening in something
Gaina (V)	Gain (V) , Gáin (V), Gan ((V), Gana (V), Gaña (V), Gane (V), Gañe (V)	Basque equivalent of "Alto"
Gollete		Narrow pass
Grau (C)	Grauet (C)	Passage through a steep slope
Horcada	Forca (G), Forcada, Forcadas, Forcadela (G), Forcadona, Forcall (C), Forcallo, Forcaso, Forcau (As), Forco, Forcón (G), Forques (G), Forqueta (As), Horcadiello, Horcado, Horcones (Cn), Horquilla, Horquillos, Biforcadera (As)	Fork, narrow pass
Horcajo	Horcajada, Horcajelos, Horcajelos, Horcajil, Horcajillas, Horcajillos, Horcajitos, Horcajos,	Junction of 2 mountains or 2 hills

	Horcajuelo, Horcajuelos, Jorcao (As)	
Hoya	Hoyo	Flat portion of land between mountains
Lepo (V)	Lepoa (V)	Pass
Mendatea (V)		Mountain pass
Muesca	Muezca	Notch, breach
Osca (C)		Narrow pass in a range
Pando		Virtually flat portion of land between mountains
Paso	Pas (C), Pasa, Pasabidea (V), Pasada, Pasadera, Pasaderas, Pasadero, Pasadilla, Pasadillas, Pasadiña (G), Pasadoiro, Pasaje, Pasal, Paset (C), Pasico, Pasil, Pasillo, Pasitos, Pasos, Passada (C), Passades (C), Passant (C), Passet (C), Portazgo, Bidea (V), Callejo, Callejón	Place where one can pass from one side of a mountain to the other
Puerta	Porta, Portachico, Portacho, Portachón, Portada, Portadela (G), Portadiña (G), Portajo, Portal, Portalán (G), Portalar, Portalecilla, Portalera, Portalero, Portales, Portalet (V), Portaleta, Portalón, Portaña, Portancho (G), Portaneires (G), Portanèth (A), Portas (G), Porteira (G), Porteiro, Portel, Portela (G), Portelada (G), Porteladas (G), Portelas (G), Porteleira (G), Porteleiras (G), Porteleiro (G), Porteleiros (G), Porteleta (V), Porteliña (G), Porteliñas (G), Portell, Portella (C), Portellada, Portelleira (G), Portelles (C), Portelletes (C), Portells (C), Portelo, Portera, Porterica, Portet (C), Portezuela, Portillera, Portilletes, Portillico, Portillín (As), Portín, Portiña (G), Portiñas (G), Portiño (G), Portiños (G), Puert, Puertas, Puertecico, Puertecito, Ataka (V), Atea (V), Ateak (V)	Door
Puerto	Port (C), Pòrt (A), Portachuelo, Portaró (C), Portarró (C), Portau (C), Portizuelo, Porticelos, Portichuelo, Portichuelos, Portiella, Portiello (As), Portigo (G), Portijerón, Portijuelo, Portil,	Pass between mountains, accessible pass

	Portilhon (A), Portilla, Portillada, Portillalbo, Portillas, Portillazos (Cn), Portillejo, Portillejos, Portillo, Portillón, Portillones, Portillos, Portitxol (C), Porto (G), Portocelo (G), Portoleiros (G), Portoliño (G), Portén (V), Portos (G), Portozón (G), Ports (C), Portu, Portucho (V), Portúa (C), Puertos, Puertu	
Quebrada		Narrow pass between mountains
Raya	Raia (G), Rajica, Rayuela, Rendija, Rendijada	Streak, long narrow line, long narrow opening.
Silla	Sela (G), Sella, Selleta, Siella (As), Sillada, Silleta, Sillita, Sillón (As)	Saddle
Tranco		Wide pass
Ventana	Ventanas, Ventaniella, Ventanino, Ventanona	Window, opening in a wall

10. Sources used

Today Spain possesses a rich, varied selection of cartography of good quality - both nationally and regionally. Many of the maps available in paper form can be consulted and downloaded free on Internet. This latter medium is changing and being upgraded constantly and the web-sites of the map publishers we have referred to are becoming the indispensable places to find the most recent versions of the maps.

A large part of this catalogue has been put together from the information on the maps of the Instituto Geográfico Nacional of Spain that can be consulted (in different versions) on these sites :

http://www.idee.es/show.do?to=pideep_catalogoIDEE.ES

http://www.ign.es/iberpix2/visor/

http://sigpac.mapa.es/fega/visor/

The databases of the CNIG and BTN25 of the same IGN have supplied other passes not shown on the maps as well as a first draft of the classification of the toponyms.

The passes accepted in this catalogue have generally been classified as :

- Paso/Collado
- Puerto de Montaña

in the CNIG's database or (in the BTN25 database) :

- Puertos de carretera principales
- Puertos de carretera restantes
- Collados y puertos o pasos de montañas principales sin carreteras
- Collados y puertos o pasos de montañas restantes sin carreteras

A somewhat more ambiguous category is "Paraje" (locality) where one really needs to look at each case in order to determine whether it's a matter of a true topographic pass or not.

We have taken as a base the policies of the Spanish map-editors regarding type-faces in order to clarify whether a toponym seems to give a name to a pass or not.

For example the CNIG for the MTN50 uses the following type-faces :

The "Paraje" with italic serif type-faces often seem to describe a wide zone or an less well-marked geographical feature rather than a real pass and we have used "filters" with a radius of about 200/300m. in order to retain only the most plausible passes.

Several local private publishers also supply good maps at scales from 1:25000 - 1:50000 and have been considered sufficiently reliable to take into account a certain number of additional passes :

- Editorial Alpina
- Editorial Piolet
- SUA Ediciones
- Editorial Prames

For GPS users there exist also high-quality maps for Garmin or TwoNav devices supplied by :

- http://www.trepat.com
- http://www.compegps.com

These 2 products cover the whole of Spain on 1 DVD in each instance.

Having regard to the abundant local cartography we have not felt it necessary to scrutinise systematically maps from foreign publishers, such as Michelin, and these maps, which sometimes contradict the local sources, need to be validated from a reliability perspective.

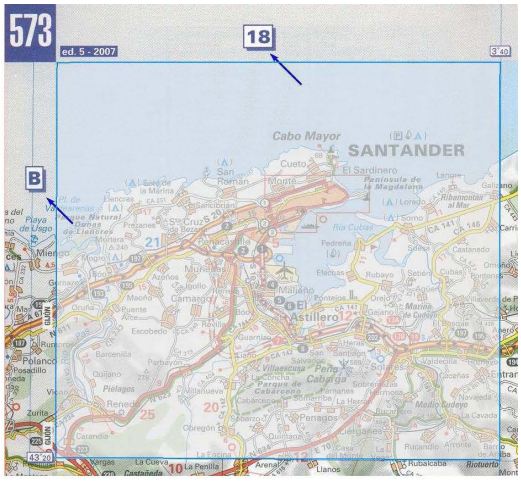
Some passes have been discovered by virtue of their names appearing on sign-posts but this source has surely not been mined completely and could be completed through the discoveries and travels of our members on the ground.

For a non-digital preparation of a journey Michelin mapping (Atlas and maps) could be sufficient for a rough sketching-out of an itinerary. Not all the road passes nor indeed all the roads are shown on these maps and you will certainly need more detailed sources for the off-road passes.

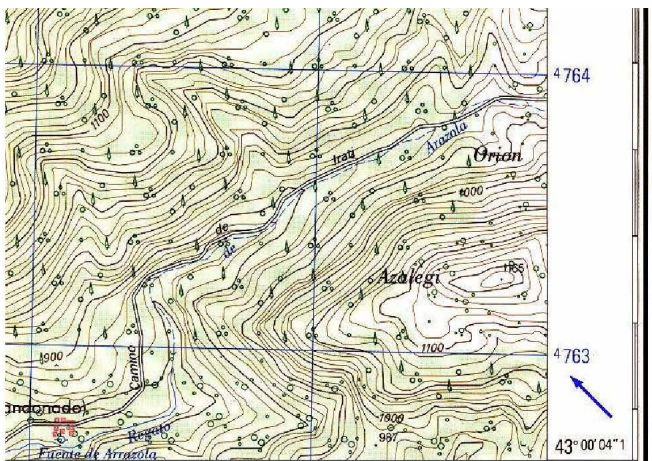
One could also use the maps from the Mapas Provinciales series (IGN, 1:200000) which however have some disadvantages in terms of being rather old and not always up-to-date.

In the appendix you will find a list (no doubt no longer completely up-to-date) or web-links allowing you to consult on-line mapping of Spain and its regions.

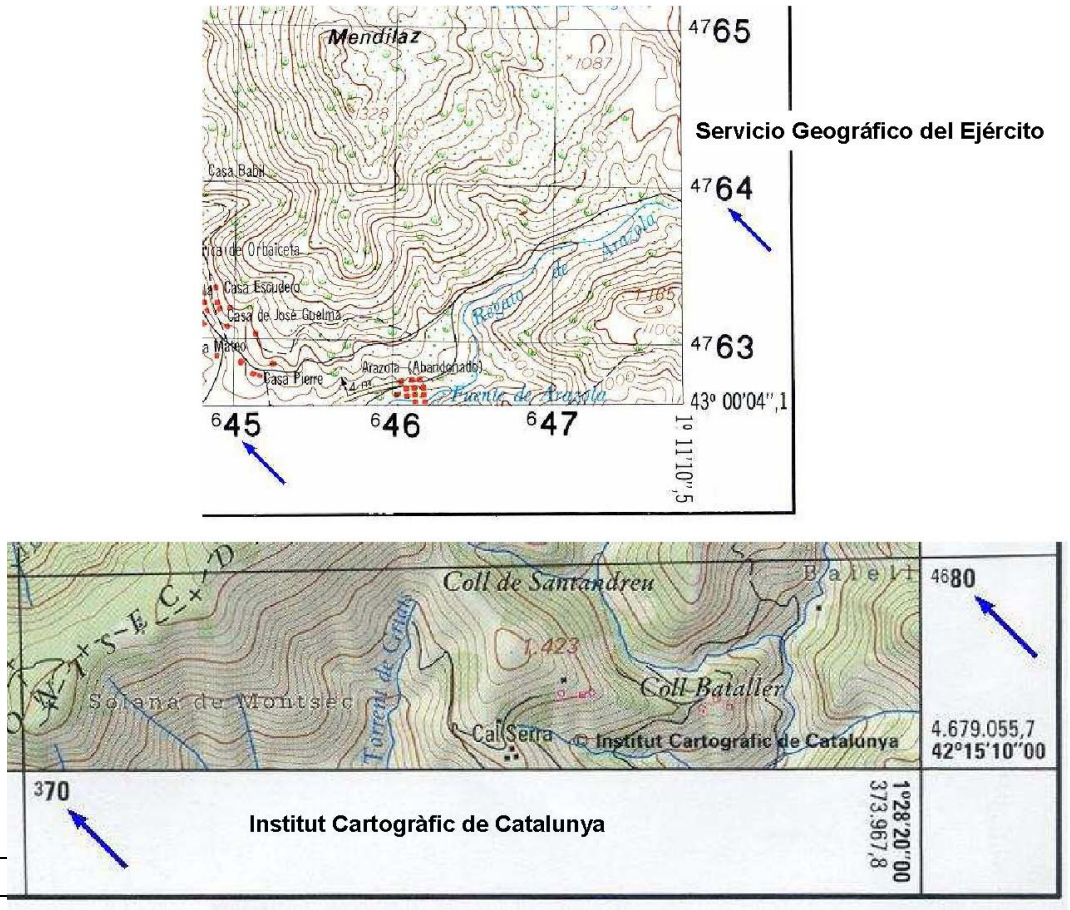
Grid for the SGE50 and MTN25 maps, covers and examples of the quadrant coordinates delineating the Provincial, Michelin, ICC50, MTN25 and SGE50 maps :



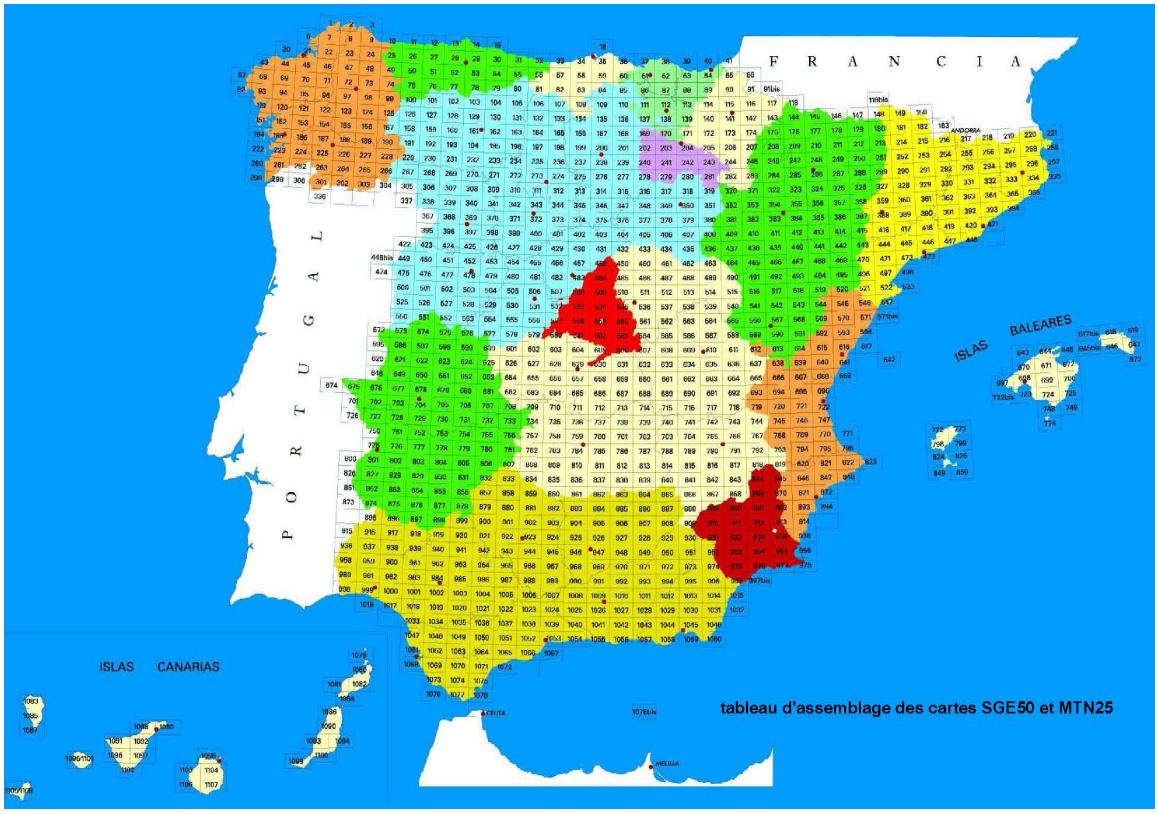
Mapa Provincial 1:200000	Carte Michelin 1:250000



MTN25



Examples of the covers of the different maps quoted



11. User's manual for the Catalogue

The data supplied correspond to the normal Cent Cols format :

Column Header	Description	Printed version
Code	Country + sub-division + initial altitude of the pass. In Spain country = "ES", sub-division = province code and altitude is a 4-digit number. Example : ES-CC-1043 for a pass in the province of Cáceres with an initial altitude of 1043 metres. In the case of duplicate altitudes the passes are distinguished from each other by an additional suffix a,b,... for example ES-CR-0751a for the 2nd pass with a height of 751 metres in the province of Ciudad Real (a pass already existing with the code ES-CR-0751). Beware : the altitude used in the pass' code is the initial altitude when the pass was first included in the catalogue. If the altitude is corrected in a subsequent edition of the catalogue the code will not change - only the column "Alti" will change (see below).	X
Complete Name	Exactly as the pass appears on the reference map; this name is re-assembled from the descriptor and the name. See Multiple Names in the column "Descriptor".	X
Province	ISO 3166-2 Code for the province.	X –shown as separate sections
Island	In the case of the Balearic Islands and the Canaries the island where the pass is located :	X – shown as separate sections

	Balearic Islands : Cabrera Formentera Ibiza Mallorca Menorca Sa Conillera Vedranell Canaries : El Hierro Fuerteventura Gran Canaría La Gomera La Palma Lanzarote Tenerife	
Alti	Altitude of the geographical pass inn metres as it is marked on the most precise source. This altitude can be corrected in later editions of the catalogue but the altitude included in the pass' code will not change. Hence one should always refer to the column "Alti" for the correct altitude.	X
Documents	Link towards the Cent Cols visualiser which displays the pass on various interactive maps : **Iberpix** A dynamic map from Iberpix - a product supplied by the Spanish IGN. The pass can be displayed on maps at different scales as well as on aerial photos. **ICC** For the passes in Catalonia a dynamic map from the ICC (l'Institut Cartogràfic de Catalunya). The pass can be displayed on maps at different scales, from 1:5000 to 1:50000. **SITNA** Map of Navarra supplied by the Sistema de Información Territoriale Navarra at a scale of 1:5000 **Google** Google Maps (for road passes and some cyclable unpaved passes views on Google Streetview are also available).	
SGE50	The pass' coordinates on the 1 :50000 scale maps of the Servicio Geográfico del Ejército (Army Geographic Service). These maps have a UTM grid 1000 metres x 1000 metres (20mm x 20mm on the map). The maps have 2 sorts of numbers : the original SGE numbering and the IGN/MTN numbering. The second numbering is used here. See the grid index. The coordinates' format is as follows : cccc:ee-nn-xx-yy. • cccc is the map number in the IGN/MTN numbering system • ee is the UTM E identification of the bottom left corner of the quadrant in which the pass is located, this identification being found on the lower and upper margins of the map. ee is the number in bold type in the margin. For example 31 refers to quadrant $_{6}$31 in the margin. • nn is the UTM N identification of the bottom left corner of the quadrant in which the pass is located, this identification being found in the left and right margins of the map. nn is the number in bold type in the margin. For example 67 refers to quadrant $_{47}$67 in the margin.	

	• xx is the abscissa of the pass, in mm. measured from the left edge of the quadrant. • yy is the ordinate of the pass, in mm. measured from the lower edge of the quadrant. Example : ES-NA-0912 (Collado de Urkiaga) has « SGE50 » coordinates 0091:24-66-14-03; this pass is therefore on map 91, quadrant ($_{6}$24,$_{47}$66) and can be found at 14 mm. from the left edge and a 3 mm. from the lower edge of the quadrant. Note : The cccc part (map number) does not alway have 4 digits. In some cases maps have grouped numbers, in particular in the Canary Islands, for example 1095/1101:79-12-13-01. The grid index shows these numbers in a correct fashion. Beware : This maps are supplied by the central Spanish government, pass names thereby appearing normally in castilian (and not in catalan or in basque).	
CNIG MTN25	The pass' coordinates on the 1 :25000 scale maps in the series Mapa Topográfico de España. These maps have a UTM grid of 1000 metres x 1000 metres (40 mm. x 40 mm. on the map). These maps have the same IGN/MTN numbering as the SGE50 maps, with a suffix in Roman numerals I, II, III et IV which represent the 4 MTN25 maps within a single SGE50 map (I = NW; II = NE; III = SW; IV = SE). The coordinates' format is as follows : cccc-s:eee-nnn-xx-yy. • cccc-s is the map number in the number format of the SGE50 maps with suffix 1,2,3 ou 4. • eee is the UTM E identification of the bottom left corner of the quadrant in which the pass is located, this identification being found on the lower and upper margins of the map. • nnn is the UTM N identification of the bottom left corner of the quadrant in which the pass is located, this identification being found in the left and right margins of the map. • xx is the abscissa of the pass, in mm. measured from the left edge of the quadrant • yy is the ordinate of the pass, in mm. measured from the lower edge of the quadrant. Example : ES-NA-0912 (Collado de Urkiaga) has "MTN25" coordinates 0091-3:624-766-29-06; this pass is therefore on map 91-III, quadrant (624,766) and can be found at 29 mm. from the left edge and at 6 mm. from the lower edge of the quadrant. Note : The cccc part (map number) does not always have 4 digits. In some cases maps have grouped numbers, in particular in the Canary Islands, for example 1096-4/1097-3:341-109-32-36. The grid index shows these numbers in a correct fashion. Beware : This maps are supplied by the central Spanish government, pass names thereby appearing normally in castilian (and not in catalan or in basque)..	X – for the sheet reference only
ICC50	For the Catalonia passes only, the pass' coordinates on the 1 : 50000 scale maps of l'Institut Cartogràfic de Catalunya. These maps have a UTM grid of 5000 metres x 5000 metres (100 mm. x 100 mm. on the map). The coordinates' format is as follows : cc:ee-nn-xx-yy. • cc is the map number, from 01 to 41 • ee is the UTM E identification of the lower left corner of the quadrant in which the pass is located, this identification being found in the lower and upper margins of the map. ee is the number in bold type in the margin. For example, 35 refers to quadrant $_{3}$35 in the margin.	

	• nn is the UTM N identification in the lower left corner of the quadrant in which the pass is located, this identification being found in the left and right margins of the map. nn is the number in bold type in the margin. For example 40 refers to quadrant $_{47}$40 in the margin. • xx is the abscissa of the pass, in mm. measured from the left edge of the quadrant • yy is the ordinate of the pass, in mm. measured from the lower edge of the quadrant.. Example : ES-L-2072 (Pòrt de la Bonaigua) has "ICC50" coordinates 26:30-25-95-13; this pass is therefore on map 26, quadrant ($_{3}$30,$_{47}$25) and can be found at 95 mm. from the left edge and 13 mm. from the lower edge of this quadrant.. Beware : This maps being supplied by the catalan cartographic office the names appear normally only in catalan, without the castilian version.	
Provincial	Coordinates on the Mapas Provinciales. The map to be used for a given pass is that which bears the name of the province (one map per province, except for Álava, Guipúzcoa and Vizcaya which are on the same map). The coordinates' format is the following : qqqq-xxx-yyy. • qqqq is the number of the quadrant on the map The Mapas Provinciales have a purple grid and each quadrant is numbered in its upper left corner. • xxx is the abscissa of the pass, in mm. measured from the left edge of the quadrant • yyy is the ordinate of the pass, in mm. measured from the lower edge of the quadrant. Example : ES-NA-0912 (Collado de Urkiaga) has "Provincial" coordinates 0091-021-020; this pass is therefore on Mapa Provincial "Navarra" ("NA" in the code), in quadrant 91, at 21 mm from the left edge of the quadrant and at 20 mm. from the lower edge of the quadrant. Beware : This maps are supplied by the central Spanish government, pass names thereby appearing normally in castilian (and not in catalan or in basque).	
Michelin	Coordinates of the Michelin 571-579 series. The format of the coordinates is as follows : cccq-qqq-xxx-yyy => ccc is the number of the map (571-579); qqq is the reference of the quadrant in the format ANN : one letter and 2 numbers; xxx is the abscissa of the pass in millimetres measured from the left side of the quadrant; yyy is the ordinate of the pass, in millimetres measured from the bottom of the quadrant. Example : ES-NA-0912 (Collado de Urkiaga) has "Michelin" coordinates 573-C25-064-016; this pass is therefore on Michelin map 573 in quadrant C25, at 64 mm. from the left side of the quadrant and at 16 mm. from the bottom of the quadrant. Beware : these maps do not always have the same scale - depending upon the region. The Michelin coordinates take this into account and the abscissae and ordinates can be read directly without worrying about the scale. Beware also : the Canary Islands are not included in this column because for the moment Michelin does not publish a regional map for these islands.	X
Carte Alpina	(For Navarra only) Coordinates on Alpina maps calculated from the UTM coordinates if an Alpina map exists in the area of the pass. The format is cc-utx-utmy-xxx-yyy. cc is the abbreviation of the map name : ab for Alduides-Baztan, bb for Bidasoa-Belate, ae for Anso-Echo and rv for Roncesvalles. utx is the UTM E reference point in the bottom left corner of the quadrant. utmy is the UTM N reference point in the bottom left corner of the quadrant. xxx is the abscissa of the pass in millimetres measured from the left side of the quadrant. yyy is the ordinate of the pass in millimetres measured from the bottom of the quadrant.	
Kompass	Reference of the map for the Balearic Islands	
Reise Know-How	Reference of the map and the quadrant for the Balearic Islands	

Other map		
Access	Road grading in free format as well as the reference of the road/path.	X
Type	Type of road/path 0 = Road, 10 = Track, 15 = Path, 20 = Path unknown or inexistant	X
Diff.	Difficulty 0 = tarmac on at least one side 1 = rideable 2 = easy pushing of the bike 3 = difficult pushing of the bike 35 = road without grading 40 = bike needing to be carried 50 = acrobatic 99 = not graded but not necessarily impossible to cross	X
Exclusions	Some passes can be crossed by two different passages, one being the geographical pass and the other being a tunnel. These are in fact the same pass - which can be crossed by two different passages. Each passage has its own unique code, but you should only declare one of the two, either the geographical passage or the tunnel. In such cases the column *Exclusions* of the tunnel passage indicates the code of the geographical passage, and vice-versa	
Ngh.	Neighbouring country or province (for foreign countries the pass code is shown)	X
ED50 Zone	UTM Zone according to the ED50 datum. The format is as follows : ff => ff is the zone (29, 30 or 31 for the peninsula and the Balearic Islands)	X
ED50 UTM x	UTM Abscissa("Easting") of the pass. The UTM coordinates (UTM E and UTM N) are the basic coordinates for the passes in Spain - from which all the other coordinates are calculated. All topographic maps in Spain display a UTM grid. The format is as follows : mmm mmm => mmm mmm is the abscissa of the pass within the zone, in metres.Note : the UTM coordinates in Spain use the geodetic datum ED50. Those of the Canaries use the REGCAN95 datum which is equivalent to the WGS84 system and as a consequence are listed in that column.	
ED50 UTM y	UTM Ordinate (“Northing”) of the pass. The format is as follows : mmmm mmm => mmmm mmm is the ordinate of the pass within the zone, in metres. Note : the UTM coordinates in Spain use the geodetic datum ED50. Those of the Canaries use the REGCAN95 datum which is equivalent to the WGS84 system and as a consequence are listed in that column.	
WGS84 Zone	UTM Zone according to the universal system WGS84. The format is as follows : ff => ff is the zone (29, 30 or 31 for the peninsula and the Balearic Islands, 28 for the Canary Islands)	
WGS84 UTM x	UTM Abscissa("Easting") of the pass according to the universal system WGS84. This system is used a lot par GPS devices, Google Earth.. The format is as follows : mmm mmm => mmm mmm is the abscissa of the pas within the zone, in metres. The REGCAN95 system used in the Canary Islands is equivalent in practice to the WGS84 system.	X
WGS84 UTM y	UTM Ordinate ("Northing") of the pass according to the universal system WGS84. The format is as follows : mmmm mmm => mmmm mmm is the ordinate of the pass within the zone, in metres. The REGCAN95 system used in the Canary Islands is equivalent in practice to the WGS84 system.	X
WGS84 Lon D	Longitude of the pass in the decimal format of the WGS84 system (directly usable in GPS devices, Google Earth etc).	X
WGS84 Lat D	Latitude of the pass in the decimal format of the WGS84 system (directly usable in GPS devices, Google Earth etc).	X
WGS84 Lon S	Longitude of the pass in the sexagesimal format of the WGS84 system.	
WGS84 Lat S	Latitude of the pass in the sexagesimal format of the WGS84 system.	

Source	Source (map or signpost) for at least one of the names of the pass	
Remarks	.	
Status	Last update for the pass	

All of the information shown in the above table are included in the computerised version of the catalogue. By virtue of limited space only some of this data - the most essential - is printed in the paper version of the catalogue (marked "X" in the 3rd column of the table). We can remind you that anyone buying the paper catalogue has available a code enabling him/her to download free-of-charge the computerised version.

12. Authors and thanks

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Thanks to : Guy Ruffié for his very detailed work on the Balearic Islands

Please address any remark, suggestion, correction or proposal for new passes or additional information to :

cols@centcols.org

Appendix : Incomplete list of useful links for studying national and regional maps in Spain

http://www.idee.es/

http://www.ign.es/iberpix2/visor/

Andalucia

http://www.juntadeandalucia.es/fomentoyvivienda

http://www.ideandalucia.es/

La Rioja

http://www.iderioja.larioja.org/

Catalunya

http://www.icc.cat/

http://hipermapa.ptop.gencat.cat/hipermapa/client/151208/base_high_cat.html

http://www.geoportal-idec.cat/geoportal/cat/

Navarra

http://www.cfnavarra.es/ObrasPublicas/cartografia/gratuito.htm

http://idena.navarra.es/busquedas/catalog/main/home.page

Murcia

http://www.cartomur.com/

Canarias

http://www.idecan.grafcan.es/idecan/

Valencia

http://www.icv.gva.es/

http://terrasit.gva.es/

Iles Baléares

http://ideib.caib.es/visualitzador/visor.jsp

Extremadura

http://www.ideextremadura.es/

Castilla La Mancha

http://ide.jccm.es/

Zaragoza

http://idezar.unizar.es/

Gipuzkoa

http://b5m.gipuzkoa.net/web5000/

Galicia

http://sitga.xunta.es/sitganet/

http://sitga.xunta.es/sitganet/index.aspx?lang=gl

Jaen

http://www.idejaen.es/

Malaga

http://www.idemap.es/

Aragon

http://sitar.aragon.es/

Pamplona

http://idena.navarra.es/busquedas/catalog/main/home.page

La Coruña

http://www.dicoruna.es/webeiel/

País Vasco

http://www1.euskadi.net/cartografia/visor/catalogo/catalogo.htm

http://www9.euskadi.net/mendatea/indice_c.htm

Asturias

http://www.cartografia.princast.es/cartositpa/sitpa/CatalogoMetadatos/framesetup.asp

Castilla y León

http://www.sitcyl.jcyl.es/smap/index.jsp