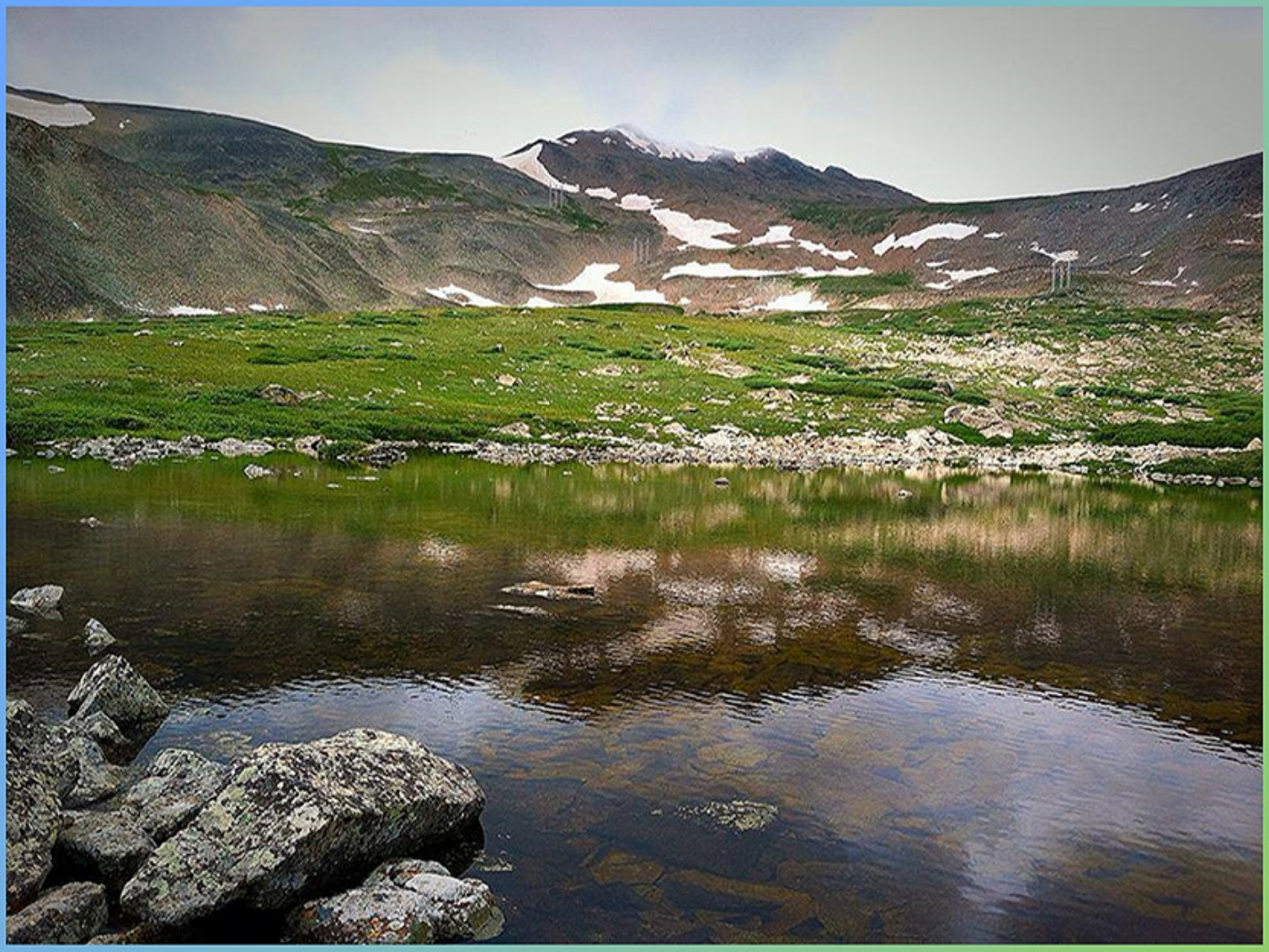
Catalogue of Passes/ Gaps in the U.S.

CLUB DES CENT COLS



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Editions des Cent Cols

CATALOGUE OF PASSES/GAPS IN THE UNITED STATES

1. This Catalogue

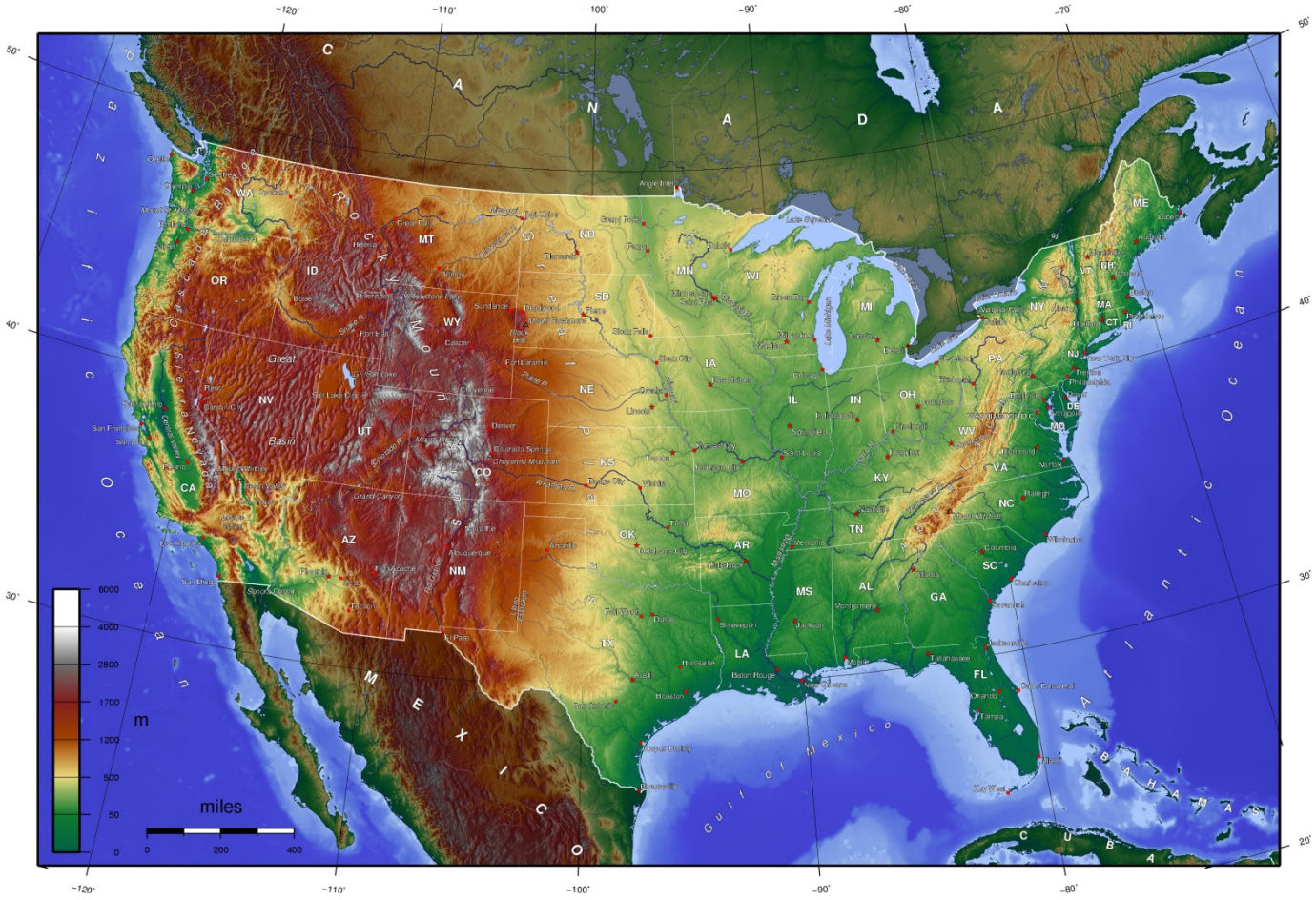
This catalogue is a major revision of catalogues of the U.S. which have been previously published some years ago – notably those produced in the early 2000s by one of the Club's members (Marcel Goll). Since that time the Club's Rules of the Game have been more tightly defined and a lot of additional publicly-accessible information has been made available on Internet by official US bodies (the USGS and other organisations). This catalogue has benefitted from and is compliant with these developments.
This new catalogue has been developed and validated by a Workgroup comprised of European and American Club members. The base catalogue is in English although column headings and this introduction are also provided in French.

2. Physical and Geographical presentation of the United States

The United States of America, otherwise known as the United States (U.S.) or America is a federal republic made up of 50 states (of which 48 are contiguous or coterminous), a federal district (Washington DC), 5 self-governing territories and various possessions (reefs and atolls) – see Section 4 Administrative Structure. At 9.5 million km² the U.S is the 4th largest country in the world by land area and with nearly 330 million inhabitants the 3rd most populous country.
The 50 states of the U.S. located in North America cover 48 contiguous states between Canada and Mexico, together with Alaska (separated from the contiguous United States by Canada) and Hawaii – a separate archipelago in the Pacific

Due to its large size and wide range of geographic features, the United States contains examples of nearly every global climate. The climate is subtropical in the Southern United States, tropical in Hawaii and southern Florida, polar in Alaska, semiarid in the Great Plains, Mediterranean in coastal California and arid in the Southwest.

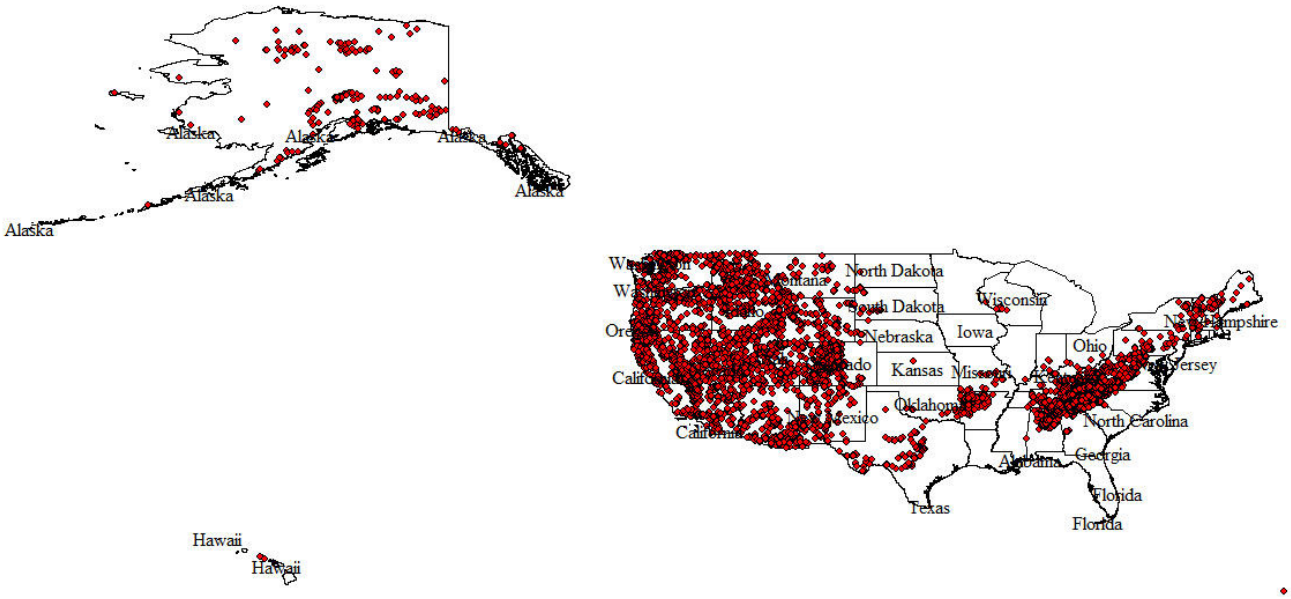
The 3 main mountain ranges are the Appalachians in the East, culminating in Mount Mitchell (2037 m), the more extensive Rocky Mountains in the West culminating in Mount Elbert in Colorado (4399 m) and the Cascade Range and Sierra Nevada close to the Pacific Ocean culminating in Mount Whitney in California (4421 m).
The highest point in the United States is Mount Denali (ex Mount McKinley) in Alaska (6194 m).
The Great Plains – which generate much of the country's agricultural output lie between these two ranges.



Source : http://www.freeworldmaps.net/

Much of the most spectacular scenery in the country has been preserved in 60 National Parks and 765 Wilderness Areas managed by various Federal agencies. There are restrictions on vehicle usage (including bicycles) in many of these areas – see Section 9 Wilderness and Forbidden Passes.

The distribution of passes across the country mirrors the physical geography to a large extent:



5. The History of the United States

Humans crossed into North America from Russia more than 15000 years ago and the first traces of indigenous people (Paleo-Indians) can be found in the U.S. around 10000 B.C. The European colonisation of the country started with Christopher Columbus' 2nd voyage in 1493 (he made landfall in Puerto Rico) and was continued by other Spanish explorers in the early 16th century. The names of some of these early settlements can still be found in what are today major cities (San Antonio, Los Angeles, San Francisco….).

The Dutch and French also made explorations and established settlements. New Netherlands was based on New Amsterdam until it passed under British control in 1664 and became New York. The French possessions in New France were mainly in the North-East (Quebec…) and the South around Louisiana. The U.S. purchased the Louisiana Territory (actually covering portions of 15 States) in 1803.

However the main influence on the future U.S.A. was the arrival of English-speaking colonists from 1600 onwards. The first colony was established in 1607 and by the 1770s thirteen British colonies containing 2.5 million people were established along the Atlantic Coast east of the Appalachian Mountains. Resistance to punitive taxes imposed by Britain led to the declaration of an independent nation and the War of Independence. This was won by the U.S.A. with support from France and a new Constitution was adopted in 1789 followed by a Bill of Rights in 1791.

The territory extended up to the Pacific Coast but was very lightly populated. This changed after 1800 with expansion towards the West by pioneers, settlers, miners and entrepreneurs as well as a number of waves of immigration (mainly from Europe) in the 19th and early 20th centuries. The need for cheap labour for the plantations in the South also fuelled the expansion of slavery. The political and constitutional battles around slavery led to the foundation of the Confederacy by a number of Southern States and the Civil War from 1861-1865. The defeat of the Confederates led to the abolition of slavery in 1865 although it was not until the Civil Rights Movement of the 1960s that the constitutional rights of African Americans were assured throughout the country.

Territories controlled by first Spain and then Mexico were maintained until the middle of the 19th Century although the Republic of Texas was an independent sovereign country for 10 years of this period. After the Mexican-American war ended in defeat for Mexico in 1848 the current boundaries of the United States were established.

By the beginning of the 20th Century the U.S. had become the world's leading industrial power. The entry of the United States into the Second World War and the rapid expansion of its military capabilities established the U.S. also as the world's leading military power.

There is no official federal language in the U.S. although American-English is the de facto national language. Spanish is the second most-spoken language and some states recognise languages other than English including some indigenous languages (Hawaii, Alaska, California……). Vestiges of other languages can be found in some place-names although English is predominant.

The federal government is composed of three branches which thereby maintain some checks and balances in the exercise of power : legislative (Congress), executive (the president) and judicial (the courts). However in this federal system the individual States retain substantial powers in a number of areas.

The main units of measure are Imperial (feet, miles, gallons, pounds…). It can be noted that 1 meter = 3.2808 feet.

6. Adminstrative structure

The United States is made up of a federal nation, 50 States (4 of which call themselves Commonwealths), and a federal district (Washington D.C.). In addition there are 5 inhabited unincorporated (not fully part of the U.S.) territories that apply the U.S. law and constitution.

The codes commonly used to designate the States (including in this catalogue) can be seen in the table below, as can the land area of each State :

State Name	State ISO 3166-2 code	Land Area (000 km²)
Alabama	AL	131
Alaska	AK	1479
Arizona	AZ	294
Arkansas	AR	135
California	CA	403
Colorado	CO	268
Connecticut	CT	13
Delaware	DE	5
Florida	FL	139
Georgia	GA	150
Hawaii	HI	17
Idaho	ID	214
Illinois	IL	144
Indiana	IN	93
Iowa	IA	144
Kansas	KS	212
Kentucky	KY	103
Louisiana	LA	113
Maine	ME	80
Maryland	MD	25
Massachusetts	MA	20
Michigan	MI	147
Minnesota	MN	206
Mississippi	MS	121
Missouri	MO	178
Montana	MT	376
Nebraska	NE	199
Nevada	NV	284
New Hampshire	NH	23
New Jersey	NJ	19
New Mexico	NM	314
New York	NY	122
North Carolina	NC	126
North Dakota	ND	178

Ohio	OH	106
Oklahoma	OK	178
Oregon	OR	248
Pennsylvania	PA	116
Rhode Island	RI	3
South Carolina	SC	78
South Dakota	SD	196
Tennessee	TN	107
Texas	TX	677
Utah	UT	212
Vermont	VT	24
Virginia	VA	102
Washington	WA	172
Washington, D. C.	DC	0
West Virginia	WV	62
Wisconsin	WI	140
Wyoming	WY	251

Travel distances in much of the U.S. are vast – Texas is the size of France and Alaska twice the size!!

The ISO codes of the 5 inhabited unincorporated territories are as follows :

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American Samoa	US-AS
Guam	US-GU
Northern Mariana Islands	US-MP
Puerto Rico	US-PR
Virgin Islands, U.S.	US-VI

Some administrative functions are carried out at the next administrative level – the county - of which there are more than 3000. The States being geographically very extensive it was thought useful to include the County for each Pass.

7. 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).

However the U.S. does have some linguistic particularities (like all countries) that need to be respected.

The generic feature names most commonly used are “Pass” and “Gap” but these are not completely interchangeable and neither is an exact synonym for “Col”.

Some databases make the following theoretical distinction:

Pass = “a break in a mountain range or other high obstruction, used for transportation from one side to another”
Gap = “a low place in a ridge, not used for transportation”

This distinction is understandable from the inherent meaning of these words: “pass” = a passage in its entirety, “gap” = the form of a break in a ridge describing the summit part of a pass (like saddle or neck…). However in actual usage the distinction is not so clear; “Pass” is more used in the Western part of the U.S. and the Rocky Mountains and “Gap” more in the Eastern part and the Appalachian Mountains.

The USBGN database (see “Sources” below) classifies virtually all of the valid toponyms as “Pass”.

The USGS/USBGN 1990 National Gazetteer has the following category:

“Gap” = a low point or opening between hills or mountains or in a ridge or mountain range (col, notch, pass, saddle, water gap, wind gap). Of this grouping “water gap” at least is not valid for our purposes since it normally designates a defile.

So where we have written “Pass” this may apply to a “Gap” and conversely.

In any case all 7500 potential pass/gaps in the initial candidate-list have been examined to ensure topographical acceptability according to the club’s normal criteria.

8. Descriptors that have been accepted as giving a name to a Pass in the United States

The Club’s “Rules of the Game” require a generic term or “descriptor” that has the sense and meaning of “col” or equivalent and designates a pass/gap in a reliable fashion.

The USBGN officially-accepted geographic names normally have a specific component (or proper name) and a generic component (or descriptor) except for populated place-names that may only have a proper name. Sometimes a generic term may be used on its own, preceded by “The” (“The Narrows” for example).

The following generic terms have been deemed to be valid according to their meaning and usage in the U.S.:
Brecha, Col, Crossing, Cut, Divide, Door, Gap, Gate(s), Narrows, Neck, Notch(es), Opening, Paso, Pass, Passsage, Portezuelo, Portillo, Saddle(s), Saddleback, (The xxx) Summit, Ventana, Window.

Generic terms that have been classified as “Pass” but not deemed valid are included in the “Not Retained” tab.

In actual fact “Gap” and “Pass” are by far the most common terms constituting more than 5800 of the nearly 7000 passes in this catalogue. Divide, Notch (in New England), Saddle and (The xxx) Summit are also fairly common; the other terms quite rare.

A special mention can be made for “Summit” which can seem surprising given the specific exclusion of summits in the “Rules of the Game”. In the particular usage in the U.S. (and in the USBN database and on USGS maps) “The” + “Name” + “Summit” is used to designate the named high-point of a Pass and is often marked by a signpost at this point. This is not dissimilar to “Alto” in Spain. “Summit” on its own, although found on some signs and some State maps, is not in accordance with USBGN practice and is considered just to indicate the high point of a geographic Pass (and maybe its altitude) without naming this point as such. Some of these latter cases are also documented in the “Not Retained” tab.

9. Sources used

The sources considered can be classified in 3 main groups:

1) Official federal sources – the USBGN and USGS – the vast majority of the passes included in this catalogue
2) Other official or commercial sources deemed to be valid
3) Sources that have been evaluated (historical, touristic or other) but not yet validated

The Club’s Rules of the Game state that:

“The naming of a pass must be enshrined in the local usage and traditions and mentioned on sources considered to be reliable by the Club. Amongst such reliable sources we can list:
Road-maps or Topographic maps issued by official cartographic bodies or private publishers considered to be sufficiently competent
Toponymic databases associated with digital maps maintained by the same bodies as mentioned above
Land Registries and historical maps issued with an adequate scale and sufficient graphical clarity to enable the passes to be located on the ground without any ambiguity
Summit and directional signposts
Passes named only according to oral traditions or mentioned in a tourist guide are considered only to provide a first clue which could lead us to carry out additional research in order to establish their usage on one of the sources listed above.”

The context in the US is a bit different from most of Europe. In most European countries the origins of names (including passes) are often lost in history, the mists of time and are presumed to have evolved in local usage rather than being created at a point in time. In much of the US particularly the West documentation of passes is relatively recent and naming has often been done (in English) by settlers, pioneers, miners, surveyors….
A Federal body was specifically created in 1890 in order to document and standardise geographic names and sometimes even to approve newly-created names – the US Board on Geographic Names (USBGN)

1) Official Federal Sources

The United States Board on Geographic Names (USBGN)

The USBGN was created in 1890 to put some order in the free-for-all naming of geographic features in the West of America as the country continued its inhabited expansion towards the Pacific Coast. Many

geographic features encountered by settlers, miners, railroad companies and survey parties were named – often differently – without any coordination and without the names necessarily remaining in local usage.

The USBGN is deemed to be the only official repository of geographic names at the federal level. Unofficial names at a local level may sometimes be more prevalent.

Some basic policies of the USBGN:

- Most geographic terms are binomial in that they have two parts denoting the specific and the generic ("Descriptor"). The generic part of the term is usually a single topographic term such as Lake, Peak, Pass….
- There will only be one official name for a geographic term
- The official name will only designate one feature class (Pass, Town…..)
- The underlying principle for establishing official geographic names is recognition of present-day local usage or preferences. Names with historical significance are given strong consideration in cases where proposed names differ from current official names
- There will not be two identical names in the same county
- The BGN will only accept proposals for names that are intended to honour a person deceased at least 5 years
- The BGN will not approve proposed names for unnamed features in Wilderness Areas…unless an overriding need is demonstrated

The BGN is extremely slow and bureaucratic. All proposals are circulated Federal-State-County-State-Federal and also among all potentially interested parties including Indian tribes (up to 90 at one time!!). In 2017, 320 name proposals were treated. Of these only 1 concerned a Pass/Gap – and it was rejected because of the Wilderness policy.
Nearly all BGN official names are shown on USGS 1:24000 maps. Nearly all names on USGS 1:24000 maps are derived from the BGN database.
There is accordingly little chance of additional Pass names, even in frequent local usage or of historic value, being officially recognised.

Lists by State or for the entire country may be downloaded here:

https://geonames.usgs.gov/domestic/download_data.htm

Nearly all of the passes in this catalogue are included in the USBGN database and classified as "Pass".

Given the position of the USBGN (above) there are not many "official" alternative names.
However in local or historical usage many such names are or have been used.

The United States Geological Survey (USGS)

The USGS, created in 1879, is the official federal agency responsible for geoscience and cartography. The USGS produces maps at a number of scales for the entire country with most usefully the 1:24000 quadrangles ("quads") available for most of the country except for Alaska (where the State is completed at a scale of 1:63360). The U.S. is unusual in that the maps are mostly at a non-metric scale and also distributed digitally for free! The 48 contiguous States and Hawaii are covered by more than 64000 quads at a scale of 1:24000. The map reference is given in this catalogue.

Maps (including previous historical versions) can be downloaded and consulted at:

https://viewer.nationalmap.gov/advanced-viewer/

or

https://geonames.usgs.gov/apex/f?p=262:1:0

or

https://ngmdb.usgs.gov/topoview/

In 2008 the USGS abandoned traditional methods of surveying, revising, and updating topographic maps based on aerial photography and field checks. Today's U.S. Topo quadrangle (1:24,000) maps are mass-produced, using automated and semi-automated processes, with cartographic content supplied from the National GIS Database.

The consequence of this move towards automatisation can be perceived as a loss of quality in the maps in terms of geographic names, altitude information and display of passages such as trails or tracks.

For example for altitudes and spot heights:

Historical USGS maps were created by field surveys and manual processes including measuring of spot heights such as summits or passes.
Current USGS 24k scale maps are entirely computer-generated with contour lines at 20 ft or 40 ft intervals.
There are no spot heights since:

- This requires a manual process
- Previous field surveys are considered of variable quality
- Modern gps or satellite readings are considered to be as accurate as older data

The National Elevation Dataset has been compiled from satellite (SRTM1) data enhanced by low-level LIDAR flights. It can be viewed in the National Mapviewer and also downloaded.

Semi-commercial views of the USGS quads can be found at, for example:

https://www.topozone.com

or

https://www.topoquest.com

These views sometimes include older US quads which may be richer in detail than the current maps.

2) Other valid sources

Since the USGS quads are freely available, detailed and of high quality, the market for additional maps in the U.S. is fairly limited.

There are of course State and local road-maps (Rand McNally, Global Graphics, American Automobile Association) but these provide little additional information for our needs compared to the official sources.

Some other "sufficiently competent" official, semi-official or commercial cartographic organisations may produce specific maps that can be considered to be valid for our purposes:

- The National Forest Service (NFS – around 2000 maps freely available)
- The Bureau of Land Management (BLM)
- State and County Maps including those produced by the relevant Departments of Transport (DOT)
- Historical maps , for example those stored at the David Rumsey Collection
- The "Trails Illustrated" maps produced by the National Geographic organisation that has some added-value information even if the scale is not as detailed as the US quads
- The "Latitude 40°" maps that have been found to be excellent for Colorado and surrounding States

The Delorme maps that were once considered to provide information similar to the US quads but in a more user-friendly and cost-effective manner have now been acquired by Garmin and probably do not provide any additional valid information that cannot be found elsewhere from official sources.

Signs and signposts established by competent organisations can also of course be considered to be valid.

3) Sources not (yet) considered to be valid

Given the amount of official information available, the USBGN's stance and the Club's position on tourist guides, historical information and oral tradition, the window for accepting additional unofficial names is fairly narrow.

Some sources that have been examined but not (yet) accepted as valid additional sources are:

- Randy Jacobs/Robert M. Ormes – Guide to the Colorado Mountains
- Ed Helmuth & Gloria Helmuth – The Passes of Colorado
- Kurt Magsamen – Colorado's Mountain Passes
- Clyde & Chloe Edmondson – Adventure Roads in Colorado
- Marshall Sprague – The Great Gates. The Story of the Rocky Mountains
- Bob Martin – Hiking the Highest Passes
- Don Koch – The Colorado Pass Book
- Lewis A. McArthur – Oregon Geographic Names
- F.V. Hayden – Atlas of Colorado
- Thomas J. Noel – Colorado. A Historical Atlas
- passbagger.org

Some of this information is historical without any secondary sources, other parts purely hearsay or "oral tradition". Many of the passes are now in Wilderness areas and therefore of little practical use to cyclists but of course some additional documentary sources could be considered.
Some of the Colorado passes listed in Helmuth's book are shown in the "Non-Retained" tab

10. Wilderness and Forbidden Passes

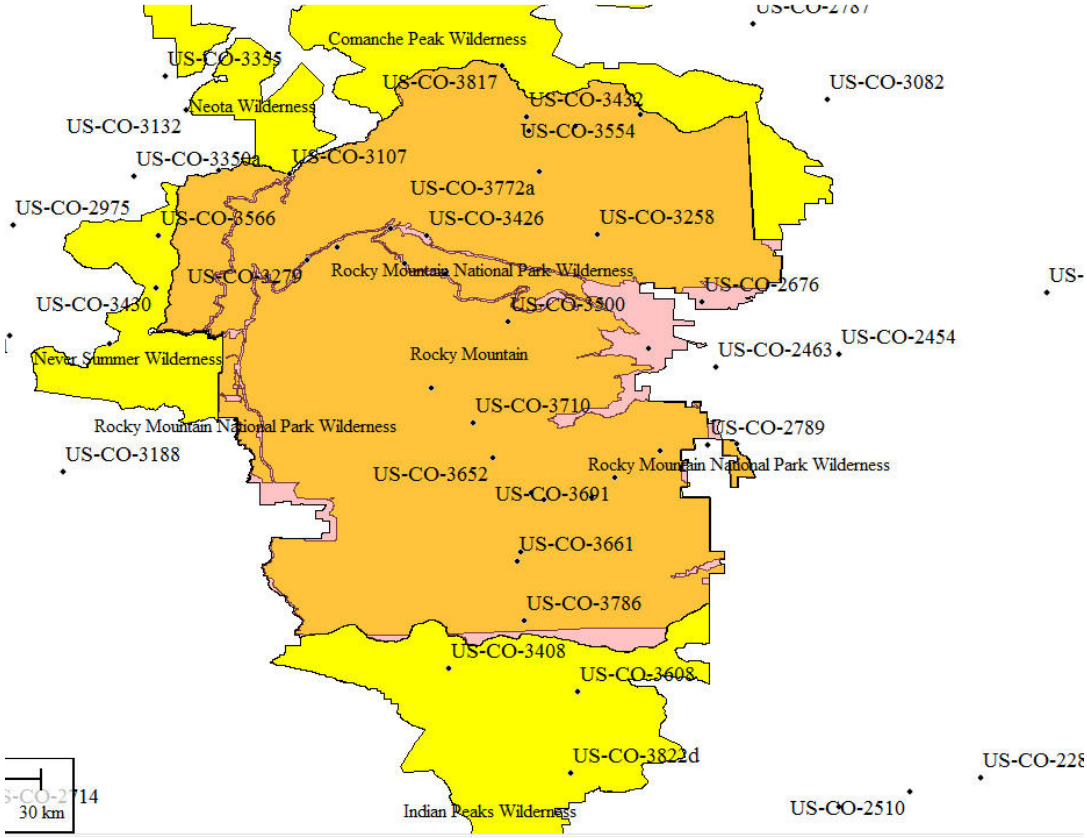
Access to a pass may be forbidden from one or all directions for a number of reasons:
Located on private property
Located within a military testing zone
Within a Wilderness Area or National Park where all use of motor vehicles or other mechanised transport is forbidden other than on designated roads/tracks or in designated corridors
On the Pacific Crest Trail & the Appalachian Trail

According to the National Wilderness policy even ownership of a bicycle in a Wilderness zone is forbidden!

Where possible and known this information has been provided in a specific column in the catalogue "Forbidden" – "Y (Wild)" if forbidden because the pass is located in a National Park or a Wilderness Area or just "Y" if forbidden for other reasons. This concerns nearly 1300 passes out of a total of 7000 so is not an insignificant factor!

The information has to a large extent been gleaned from the web-sites of the National Park Service or the Wilderness Resource Center at Montana University. Some access may be available on designated roads or tracks or from one side of the pass only. More accurate information can be gathered locally or from each Park/Wilderness' web-site. National Park Rangers are authorised to carry firearms so these restrictions should not be taken lightly. The same advice may apply to private property.

One example from Colorado – the Pink areas are National Parks, the Yellow areas Wilderness and the Orange areas located under both jurisdictions:



11. Access details

Like all of our catalogues that have been established from desk-studies and not on the ground the access details and cyclability of the passes can be difficult to establish.

A best guess of the access details has been determined here by : the maps, some guidebooks, Google Earth and Google Streetview.

Most of the passes on paved (or sealed) roads are fairly reliable since checked on Streetview and/or Google Earth.

The off-road passes are more uncertain of course and can benefit from visits on the ground.

The “tracks” in the U.S. have been divided into “Dirt Roads” which in many cases may be perfectly cyclable even with a road bike and “Gravel Roads” – sometimes requiring a 4WD vehicle or some pushing for cyclists.

The “trails” are those that can be observed on the maps – these may or may not exist on the ground and there may be trails where none are shown on the maps.

Otherwise the default case is “Off-track” or “Off-trail”.

The coding convention in the Access column has been shown in English and French:
DR/R for a Dirt Road/Piste
GR/R for a Gravel Road/Piste
T/S for a Trail/Sentier
OT/HS for a Off-Trail/Hors Sentier

All of this information and the Difficulty Grading will need to be enhanced by our members.

12. Coordinates

The base coordinates used in the catalogue are geographic WGS84 ddd.dddddd°
This is the normal system used now on Internet and gps-compatible and is sufficiently close to the native American system NAD-83 (less than 1 meter difference) to be indistinguishable. Only the datum used on the American Samoa maps varies significantly from WGS84.

13. User's manual for the Catalogue

The data supplied correspond to the normal Cent Cols format :

Column Header	Description
Code	Country + sub-division + initial altitude of the pass. In the U.S. country = "US", sub-division = State code in Section 6 above and altitude is a 4-digit number in meters (NB 1 meter = 3.2808 feet).
Old Code	A previous code that has been used in published or unpublished versions of the U.S. catalogue where the numerical component is in feet.
Complete Name	Exactly as the pass appears on the reference map or source
Alias	Some alternative names that have been recorded. Also these are rare in view of the USBGN policy of only having one official name
State	ISO 3166-2 Code for the State
Ngh State	A neighbouring state (if any). This is fairly unusual in the U.S. due to the practice of defining the boundaries of the States by Latitude/Longitude lines and not along geographic features such as rivers or mountains.
County	The County in which the pass lies. The pass may be on the borderline of 2 counties but this has not been provided.
Alt (m)	Altitude of the geographical pass in meters 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.
Alt (ft)	The altitude in feet calculated by Alt (m) x 3.2808. This will be close to the altitude on US maps in feet (if spot heights are shown).
Documents	Link towards the Cent Cols visualiser which displays the pass on various interactive maps
Map USGS	USGS quadrangle, or “quad” on which the pass is shown. These maps are nearly all at 1:24000 scale (except for some of Alaska).
Access	Road grading in free format as well as the reference of the road/path. NB the off-road passes are shown in dual language English/French: DR/R for a Dirt Road/Piste GR/R for a Gravel Road/Piste T/S for a Trail/Sentier OT/HS for an Off-Trail/Hors Sentier All of this information and the Difficulty Grading will need to be enhanced by our members
Type	Type of road/path 0 = Road, 10 = Track, 15 = Path, 20 = Path unknown or inexistant
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
WGS84 Lon D	Longitude of the pass in the decimal format of the WGS84 system (directly usable in GPS devices, Google Earth etc).
WGS84 Lat D	Latitude of the pass in the decimal format of the WGS84 system (directly usable in GPS devices, Google Earth etc).
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 – mostly USGS maps or USBGN database
Remarks	Including National Park or Wilderness Area.

Reason for not retaining	Reason for not retaining some passes that have been evaluated but not considered valid
Status	Last update for the pass

12. Authors

Authors : Graham Cutting, Marcel Goll, Thierry Labour, Jaap Meiresonne, Robert de Rudder, John Wilkinson,

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

cols@centcols.org

Cover photo :

View of Mosquito Pass