

PRODUCT DESCRIPTION

GSD-Mountain information, vector format

DOCUMENT VERSION: 2.7

Figure 1. Section from GSD-Fjällinformation, vector.

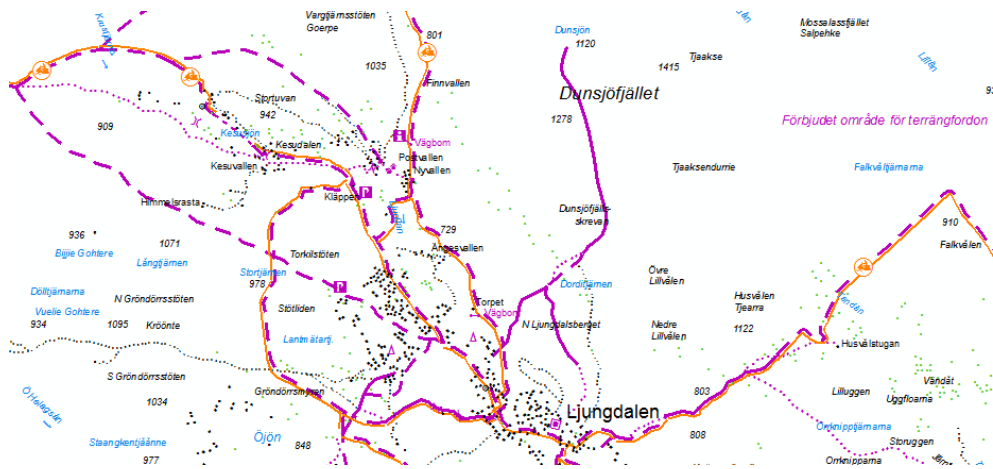


Table of contents

1	GENERAL DESCRIPTION	3
1.1	CONTENTS	3
1.2	GEOGRAPHIC COVERAGE	3
1.3	COMPLETENESS	3
1.4	COORDINATE SYSTEM	3
1.5	SAAMI NAMES	3
2	QUALITY STATEMENT	4
2.1	DATA COLLECTION METHOD	4
2.2	CURRENCY	4
2.3	POSITIONAL ACCURACY	4
2.4	LOGICAL STRUCTURE	4
3	CONTENTS OF THE DELIVERY	5
3.1	FOLDER STRUCTURE	5
3.1.1	<i>Document</i>	5
3.1.2	<i>Font</i>	5
3.1.3	<i>Vagk</i>	5
3.1.4	<i>arcgis (only with delivery in Shape format)</i>	5
3.2	SETS OF FILES	5
3.2.1	<i>Shape format</i>	5
3.2.2	<i>MapInfo format</i>	6
3.3	DIVISION INTO LAYERS	6
4	LAYOUT AND PLOTTING OF DATA	7
4.1	EXTENT OF COVERAGE	7
4.2	ON-SCREEN PRESENTATION	7
4.2.1	<i>General information</i>	7
4.2.2	<i>Symbols</i>	7
4.2.3	<i>Text</i>	7
4.2.4	<i>Shape format</i>	7
4.2.5	<i>MapInfo format</i>	8
4.3	INSTALLING FONTS	8
5	DESCRIPTION OF LAYERS AND LIST OF CODES	9
5.1	ZL LINE LAYER WITH MOUNTAIN INFORMATION	10
5.2	ZR POINT LAYER WITH MOUNTAIN INFORMATION SYMBOLS	11
5.3	ZY POLYGON LAYER WITH DENSE VEGETATION	13
5.4	ZT AND ZG TEXT LAYERS WITH MOUNTAIN INFORMATION	13
	APPENDIX 1: AREA COVERED BY GSD-MOUNTAIN INFORMATION	19
	APPENDIX 2: PRESENTATION OF PLACE-NAMES IN SAAMI	20
	APPENDIX 3: LIST OF SAAMI CHARACTERS	21

I General description

Mountain information in vector format is a complement to GSD-Road Map.

This document is a description of how GSD-Mountain information (at a scale of 1:100 000) is structured on delivery.

For more information and an overview listing of GSD-Road Map refer to [Lantmäteriet's website – Vägkartan](#).

I.1 Contents

The product contains for example trails, bridges, text and houses.

I.2 Geographic coverage

GSD-Mountain information covers the mountain area from *Sälen* in the south to *Treriksröset* in the north (see Appendix 1).

I.3 Completeness

There is no height information in the database.

I.4 Coordinate system

Plane coordinate system: SWEREF 99 TM

Height system: the Swedish national RH 2000 height system

For information in which other coordinate systems the product can be delivered in, see chapter Koordinatsystem in the document Fees and shipping information for geodata (at present only in Swedish) at [Lantmäteriet's website](#), select Maps and geographic information and Terms and Fees.

I.5 Saami names

Saami names are shown using the approved orthography for the respective language areas (see Appendix 2). There is a list of Saami characters in Appendix 3.

2 Quality statement

2.1 Data collection method

GSD-Mountain information has been produced using digital techniques and collection of data has been done on a sheet basis in connection with map production.

Revision data for GSD-Mountain information is collected from GSD-Road Map.

2.2 Currency

The revision cycle for all map sheets within the GSD-Mountain Map series is 4-8 years.

Mountain information is revised in conjunction with the revision of the printed Mountain Map.

2.3 Positional accuracy

The standard error in plane in the Road Map database is generally of the order of approximately 20 m, but as a result of cartographic generalisation this figure can, in some cases, be as much as 150 m.

2.4 Logical structure

Footpaths and trails do not form a connected network and are not connected to the road network. Areas are stored as closed polygons and every area within a base has been given an area code. Symbols are stored with a feature code and orientation.

Text is cartographically positioned without links to features.

3 Contents of the delivery

3.1 Folder structure

3.1.1 DOCUMENT

This folder contains documents that describe the product.

3.1.2 FONT

TrueType fonts are included in the files *GSDVagk.ttf* or *GSDVk_MI.ttf* depending on the format in which the data is delivered.

For correct presentation of the Sami text are the files *GSDTxb.ttf*, *GSDTxbn.ttf*, *GSDTxbni.ttf*, *GSDTxbnb.ttf* delivered.

3.1.3 VAGK

This folder contains one or more sub-folders containing data, together with a closed-polygon grid, *rutnat.**. The grid has an attribute, RUTA, which contains the names of the index quads. Each sub-folder contains data for the area that you have ordered (for example for a municipality or an area defined by coordinates). In addition to files with map data, this folder also contains a file in which all of the features in each layer are listed.

3.1.4 ARCGIS (ONLY WITH DELIVERY IN SHAPE FORMAT)

When data is supplied in Shape format, a LYR file is included in this folder.

3.2 Sets of files

3.2.1 SHAPE FORMAT

Data in Shape format is supplied in 5 files per layer.

Table 1. List of which five files are available for the shape format.

*.shp	Geometry file.
*.dbf	Attribute file in Dbase format.
*.shx	Index file.
*.prj	Projection file (only if SWEREF 99 TM is used).
*.cpg	Encoder file.

The Shape files do not have geometry index.

The Dbase files do not have attribute index.

Encoder file is needed for correct display of Swedish and Sami text.

Annotation (text) files are also supplied in ArcInfo Coverage format.

Table 2. Annotation (text)

*	ArcInfo Coverage with set text plotting style (annotation).
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3.2.2 MAPINFO FORMAT

Data in MapInfo (tab) format is supplied in 4 files per layer.

Table 3. List of the four files available for the MapInfo format.

*.tab	Huvudfil/tabell-definitioner.
*.dat	Attributfil.
*.map	Geometrifil.
*.id	Indexfil till grafiska objekt.

The tab files do not have geometry and attribute indexes.

3.3 Division into layers

The data of GSD-Mountain information in Shape or MapInfo format is divided into 5 layers, based on type of geometry and the theme to which it belongs. The first letter in the name setting is Z and the second letter generally identifies the type of geometry (l for lines, p/s for points/symbols, y for area and t for text). The second part of the name (after ”_”) is common to all files in a folder.

Sets of attributes vary between the different layers and are described in detail in section 5.

4 Layout and plotting of data

4.1 Extent of coverage

All layers in GSD-Mountain information have been cut as 100x100 km quads in accordance with the national index system. The cutting has been done to speed up plotting.

4.2 On-screen presentation

4.2.1 GENERAL INFORMATION

The plotting style chosen for this product is intended for plotting at a scale of 1:100,000. This scale should be seen as a suitable reference scale.

Recommended plotting sequence of the layers is presented in Table 4. The best plotting results are obtained if the ZY layer is used together with the Road Map's MY layer.

4.2.2 SYMBOLS

The TrueType-fonts in the files GSDVagk.ttf/GSDVk_MI.ttf must be installed to ensure correct presentation of symbols. The attribute SRIKT has been used when setting the plotting style for symbols to give them the correct orientation.

4.2.3 TEXT

For setting text, the attribute KKOD has steered font and colour. The attribute THOJD has steered the size of the text. Other attributes that have been used are TJUST (anchor point) and TRIKT (orientation). Text strings are not plotted with spaced characters. Instead, spacing is given in the attribute TSPARR where the size of the delivered strings relative to the original strings is given as a percentage figure.

4.2.4 SHAPE FORMAT

The standard GSD-Mountain information plotting style is used for all delivered layers. For use of the data in ArcMap there are plotting style settings in the LYR file in the arcgis folder.

The line layer with mountain information ZL is used twice in the LYR file to make it possible to view trail for snowmobiles.

In the LYR files it is possible to steer whether or not features should be re-scaled when the scale in the program is changed. This has been done in the LYR file enclosed with delivery (see Table 4).

Text is supplied as lines and points, with the text as an attribute, and as text with a set plotting style in the ArcInfo Coverage format.

4.2.5 MAPINFO FORMAT

This product is delivered with the standard GSD-Mountain information plotting style. This means that, on delivery, all objects in all of the layers contain values for the parameters that steer colour, size and shape when they are plotted.

Text is supplied as lines and points with the text as an attribute.

MapInfo 4, or a later version, must be used if you want the symbols to be rotated when they are plotted.

Table 4. Recommended plotting sequence for layers and scale range in the LYR-file.

Description of layer	Layer name	Geometry	Scale range in the LYR file	Turned on
Mountain text, cartographic	ZT	Text	1:100,050 and larger	X
Mountain text	ZT	Point	1:100,050 and smaller	
Mountain text	ZG	Line	1:100,050 and smaller	
Mountain text (only in MapInfo)	ZG	Line/point	-	
Mountain symbols	ZR	Point	Always shown	X
Mountain lines	ZL	Line	Always shown	X
Mountain vegetation areas	ZY	Polygon	Always shown	X

4.3 Installing fonts

The fonts supplied with this delivery must be installed, irrespective of the software that you use, to ensure correct presentation, symbols and text. This is done via Control Panel-Fonts.

5 Description of layers and list of codes

This section is a description, layer by layer, of the details that are included in them and with which attributes the details are defined.

The description of the layers is as follows:

- The column *Layer name* (Sw = *Skikttnamn*) contains the layer name/file name that is given to files when they are delivered. XXXXX = the sheet code/area name.
- The column *Category code* (Sw = *Kkod*) contains the feature's numerical code.
- The column *Description* (Sw = *Beskrivning*) contains a clarification of the detail type.

Attributes are defined as follows:

- The *No.* column, (Sw = *Nr*) contains the running numbers for the layer's attributes.
- The *Attribute* column, (Sw = *Attribut*) contains the name of the attribute.
- The *Type* column, (Sw = *Typ*) contains the data that is used - integer/decimal/character.
- The *Length* column, (Sw = *Längd*) contains the number of characters allocated to this field.
- The column *Description*, (Sw = *Beskrivning*) contains a short description of the attribute.

5.1 ZL line layer with mountain information

Contains mountain information in line geometry.

Table 5. Contents in ZL line layer with mountain information.

Layer name	Category code	Description
ZL_xxxx	264	Footpath
ZL_xxxx	267	Poorly marked footpath
ZL_xxxx	289	Other footpath
ZL_xxxx	513	Rapids
ZL_xxxx	516	Waterfall
ZL_xxxx	9911	Marked footpath for summer and winter use
ZL_xxxx	9912	Marked footpath for winter use
ZL_xxxx	9913	Marked footpath for summer use
ZL_xxxx	9914	Recommended footpath, unmarked
ZL_xxxx	9915	Mountain safety rail
ZL_xxxx	9916	Frequently used boat route
ZL_xxxx	9917	Rowing route
ZL_xxxx	9921	Winter trail over lake
ZL_xxxx	9954	Camping and fires prohibited, time-limited
ZL_xxxx	9956	Skiing track
ZL_xxxx	9957	Boat hauling site

Table 6. Set of attributes in ZL line layer with mountain information.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	KKOD	Decimal	5,0	Integer	5	Category code
2	KATEGORI	Text	50	Text	50	Description of category code
3	SKOTERINFO	Integer	5	Integer	5	Information about snow mobile

Table 7. Contents in attribute SKOTERINFO

Code	Description
0	No information.
1	Trail for snowmobile
NULL	Empty

5.2 ZR point layer with mountain information symbols

Contains symbols with mountain information.

Table 8. Contents in ZR point layer with mountain information symbols.

Layer name	Category code	Description
ZR_xxxx	345	Road barrier
ZR_xxxx	375	Transformer
ZR_xxxx	451	Scattered forest
ZR_xxxx	511	Direction of flow
ZR_xxxx	524	Jetty
ZR_xxxx	733	House, size classification 3
ZR_xxxx	735	House, size classification 1
ZR_xxxx	736	House, size classification 2
ZR_xxxx	748	Bell tower
ZR_xxxx	749	Point 1, not specified
ZR_xxxx	771	Hut, decayed
ZR_xxxx	780	Wind shelter, not connected to Road Map trails
ZR_xxxx	784	Monument
ZR_xxxx	787	Cultural-historical relic, smaller
ZR_xxxx	788	Lay-by, not in connection with public road
ZR_xxxx	811	Triangulation station

Layer name	Category code	Description
ZR_xxxx	9931	Mountain lodge, hotel, boarding house
ZR_xxxx	9932	Tourist hut, overnight hut
ZR_xxxx	9933	Other hut
ZR_xxxx	9934	Rest shelter, rest hostel
ZR_xxxx	9935	Holiday cottages
ZR_xxxx	9936	Car park
ZR_xxxx	9938	Footbridge
ZR_xxxx	9939	Ford
ZR_xxxx	9941	Skiing track, information symbol
ZR_xxxx	9943	Seaplane terminal
ZR_xxxx	9944	Heliport
ZR_xxxx	9945	Information board
ZR_xxxx	9947	Mandator trail for snowmobile
ZR_xxxx	9950	Tourist attraction

Table 9. Set of attributes in ZR point layer with mountain information symbols.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	KKOD	Decimal	5,0	Integer	5	Category code
2	KATEGORI	Text	50	Text	50	Description of category code
3	SRIKT	Decimal	6,2	Decimal	6,2	Symbol orientation

5.3 ZY polygon layer with dense vegetation

Contains areas with mountain vegetation.

Table 10. Contents in ZY polygon layer with dense vegetation.

Layer name	Category code	Description
ZY_xxxx	20	Dense vegetation, rough

Table 11. Set of attributes in ZY polygon layer with dense vegetation.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	KKOD	Decimal	5,0	Integer	5	Category code
2	KATEGORI	Text	50	Text	50	Description of category code

5.4 ZT and ZG text layers with mountain information

With deliveries in Shape format three layers are delivered (two in Shape format and one in ArcInfo Coverage format). With deliveries in MapInfo format two layers are delivered.

Table 12. Text layer in Shape format.

Shape
Point layer (ZT)
Line layer (ZG)

Table 13. Text layer in ArcInfo Coverage format.

ArcInfo Coverage
Text layer (ZT)

Table 14. Text layer in MapInfo format.

MapInfo
Text layer (ZT)
Point/line layer (ZG)

In Shape format, text is supplied both as lines and points with the text as an attribute, and as text with a set plotting style in the ArcInfo Coverage format. In MapInfo format, text is supplied partly as points and lines with text as attribute and as text.

The placing of point text depends on the text string's anchor point. The text has been created starting from this point. For MapInfo, the point has been placed so that text position 1 (lower left-hand corner) can be used for all texts.

Line texts are defined by the centre line of the string. The length of the line is the same as the length the text will have in production. This is only partly the case for snaking text. Texts that lie within the delivered area will be included in the delivery irrespective of whether their anchor points lie within or outside the area. This way, you will always receive the same number of features for lines, points and texts.

NOTE! If you use this layer together with the Road Map, you will have two different text layers. If both are active it will be very difficult to read the different text strings. You should, therefore, deactivate one of the layers.

The text layers with text divided into syllables are supplied adapted to GIS. This text, which otherwise is supplied in two or more points, is written together as a one-word text string in one point. These layers are in the folder gistext.

Table 15. Contents in layers with map text.

Layer name Shape	Layer name ArclInfo	Layer name MapInfo	Category code	Description
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	1	Built-up area
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	2	Built-up area
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	3	Built-up area
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	4	Built-up area
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	5	Locality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	7	Locality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	8	Locality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	9	Locality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	17	Church
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	18	Church
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	24	Airport
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	25	Airport
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	27	Other facility
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	28	Other facility
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	31	Municipality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	32	Municipality
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	37	Enclave
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	41	Proclaimed nature area

Layer name Shape	Layer name ArclInfo	Layer name MapInfo	Category code	Description
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	42	Proclaimed nature area
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	43	Proclaimed nature area
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	44	Proclaimed nature area
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	45	Proclaimed nature area
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	50	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	51	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	52	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	53	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	54	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	55	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	56	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	57	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	58	Natural feature (Black)
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	61	Informative text
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	62	Informative text
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	63	Informative text
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	64	Informative text
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	65	Informative text
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	76	Elevation figure, land
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	77	Elevation figure, water surface
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	78	National boundary cairn
ZT_XXXX, ZG_XXXX	ZT_XXXX	ZT_XXXX, ZG_XXXX	79	Road number

Layer name Shape	Layer name ArcInfo	Layer name MapInfo	Category code	Description
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	80	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	81	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	82	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	83	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	84	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	85	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	86	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	87	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	88	Natural feature (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	92	Informative text, warning (Magenta)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	93	Informative text, warning (Magenta)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	94	Informative text, warning (Magenta)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	96	Informative text, tourist information (Magenta)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	97	Informative text, tourist information (Magenta)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	172	Glacier (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	173	Glacier (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	174	Glacier (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	175	Glacier (Blue)
ZT_xxxx, ZG_xxxx	ZT_xxxx	ZT_xxxx, ZG_xxxx	176	Glacier (Blue)

Table 16. Attributes for ZT.



No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Type ArcInfo	Length ArcInfo	Description
3	TEXT	Text	40	Text	40	Text	40	Text string
1	KKOD	Decimal	5,0	Heltal	5	Decimal	5,0	Category code
2	KATEGORI	Text	50	Text	50	Text	50	Description of category code
6	TJUST	Decimal	1,0	Integer	1			Text anchor point (1–9). Anchor point in decimal point. <i>Figure 2. Figure showing nine possible anchor points for text</i> 
7	TSPARR	Decimal	3,0	Integer	3	Decimal	3,0	Text spacing in percentage of length of original string (0-100 %)
5	TRIKT	Decimal	6,2	Decimal	6,2	Decimal	6,2	Orientation of the text (0-360 anti-clockwise)

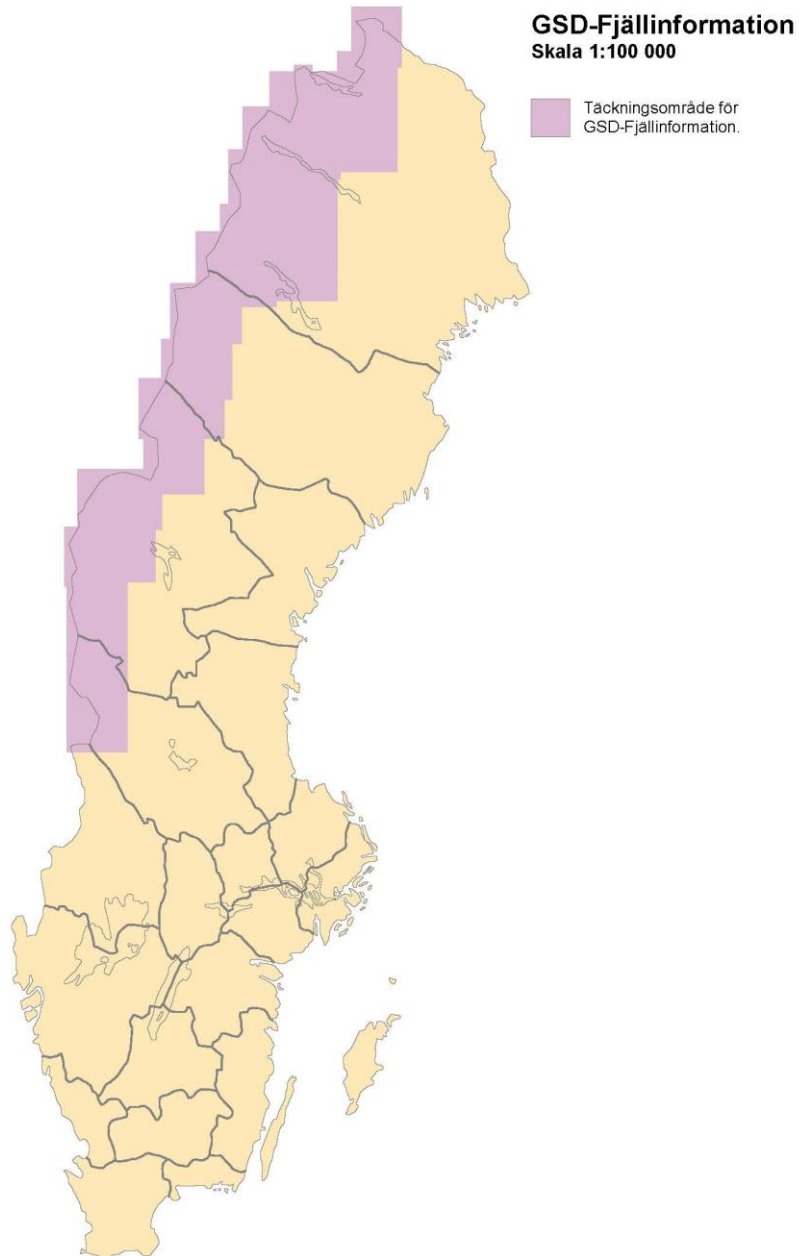
Table 17. Attributes for ZG.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
3	TEXT	Text	100	Text	100	Text string
1	KKOD	Decimal	5,0	Integer	5	Category code
2	KATEGORI	Text	50	Text	50	Description of category code

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
6	TJUST	Decimal	1,0	Integer	1	Text anchor point (1–9). Anchor point in decimal point. <i>Figure 3. Figure showing nine possible anchor points for text.</i> 
7	TSPARR	Decimal	3,0	Integer	3	Text spacing in percentage of length of original string (0-100 %)
5	TRIKT	Decimal	6,2	Decimal	6,2	Orientation of the text (0-360 anti-clockwise)

Appendix I: Area covered by GSD-Mountain information

Figure 4. Coverage area for GSD-Fjällinformation, vector.



Appendix 2: Presentation of place-names in Saami

Figure 5. Map image of the distribution of Sami language areas.



Appendix 3: List of Saami characters

Table 18. Codes for Sami characters in ISO 8859-10.

Character	ISO 8859-10
Á	193
á	225
Š	170
š	186
Č	200
č	232
Ž	172
ž	188
Đ	169
đ	185
Ŋ	175
ŋ	191
Ƨ	187
Ƨ	171
Ě	203
ě	235
Ń	209
ń	241