

PRODUCT DESCRIPTION

GSD-General Map, vector format

DOCUMENT VERSION: 4.8

Figure 1. Section from the GSD General Map vector



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I General description

This document describes the structure of the products GSD-General Map, vector format.

I.1 Contents

GSD-General Map in vector format has the following contents:

- Public roads, private roads and railways
- Polygons (sea, lake, locality, other close built-up area, forest, open land, region above the tree line, glacier and marshland)
- Watercourses
- Administrative division (national, territorial, county and municipality boundary)
- Province boundaries
- Nature conservation objects
- Military zones
- Electricity transmission lines
- Line symbols (dam, airport, mountain trail, hiking trail, etc.).
- Point symbols (elevation point, mine, tower, house, etc.)
- Contours
- Text (names of built-up areas and nature objects, and informatory text)

I.2 Geographic coverage

This product covers the whole of Sweden and is delimited by the territorial boundary in the sea and the national boundaries with Finland and Norway. Foreign territory is not included.

I.3 Coordinate system

Plane coordinate system: SWEREF 99 TM

Height system: RH 2000

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.4 Sami text

Names in Sami are presented with the approved orthography of the respective language area, see Appendix 2. For a list of Sami characters, see Appendix 3. Quality statement.

2 Quality description

2.1 Purpose and utility

The GSD Overview Map, vector is often used as a background for different types of theme presentations in the scale ranges 1: 100,000 - 1: 500,000.

The vector format allows you to tailor the map to your own operations. You can:

- add and link your own information to objects in the map
- integrate the map data in your own system
- display information as required using the layer division

2.2 Data capture

2.2.1 LINEAGE

The first collection of data was made with digitizing and scanning of the original Road Map and General Map materials. Additional collection of data was made from current topographical maps, editorial material (i.e. information from state authorities, municipalities and other organisations), the old nature conservation objects database, the Place-name Register and Statistics Sweden's delimitation of localities.

Contours with a vertical interval of 25 metres (and of 50 metres over the mountain area) were generated from GSD-Elevation data.

2.3 Maintenance

The basic data of Lantmäteriet is updated partly periodically internally, and more continuously in collaboration with other state authorities, municipalities and organizations. Collection methods used at Lantmäteriet are primarily interpretation in aerial images in stereo or orthophoto. Basic data and the Property Map then form the basis for updating the Overview Map.

As a complement to the above, some editorial collection is also made at Lantmäteriet of selected objects that are not collected via aerial image interpretation or municipal collaboration. Administrative divisions, airports, railway stations and hospitals are collected in this way annually.

Updating of the Overview Map is done through the work method event-driven updating. This means that change data from basic data is searched based on objects, changes in geometry or attributes and date ranges.

The objects that are updated in this way are power lines, nature conservation, military areas, railways, roads, certain building and construction symbols and certain enlightenment text. Error reports that come in to Lantmäteriet are also handled event driven.

The methods have meant that the objects in the GSD Overview Map, vector has high timeliness.

GSD-General Map is updated continuously with information of administrative divisions, airports, public roads, railways, conservation areas and military areas. The updates are based on collaboration with other government agencies, municipalities, organizations, and some editorial collection. New vector data is available weekly.

2.3.1 MAINTENANCE FREQUENCY

Changes from basic data are captured weekly.

Read more in the sections on data capture, history and maintenance frequency for each layer, and more detailed information on how Lantmäteriet manages geodata production and collaborates with other organizations in Chapter 5.

2.4 Data quality

2.4.1 COMPLETENESS

Completeness is related to the selection of each detail type. Refer to the sections that describe the layers included in the product description to learn more about the selection of each detail type.

There are some generalization rules for the information in the Overview Map. Cartographic generalization means that geographical information is simplified, symbolized and moved from its original location to provide as clear and easy-to-read map image as possible. The generalization therefore means that the geographical information is not always reported in its real position and that deviations in completeness can occur when objects can be generalized away for reasons of space.

The quality parameters for completeness are commission and omission. Since there are few measurements made of the completeness of objects included on the Over-view Map at Lantmäteriet, completeness is often referred to as very high, high, and low in the product description. The class of completeness that the different detail types fall into is assessed by personnel involved in the collection and updating of objects.

For more information about completeness, see chapter 5.

2.4.2 LOGICAL CONSISTENCY

All information is coded by object type and stored in vector format. All polygons are coded according to their respective limiting lines and according to a hierarchical structure.

The line features for roads and railways are connected and form continuous networks.

The features in the polygon layer for fully covering land data form a continuous area.

When storing objects in the Lantmäteriet database they are first checked for compliance with the established geometric and topological rules and that the information is consistent with OGC (Open Geospatial Consortium) requirements for geometries. Value quantities and detail types are also checked for validity before being stored in the database.

For more information about logical structure, see chapter 5.

2.4.3 THEMATIC ACCURACY

Thematic accuracy varies.

For more information about thematic accuracy, see chapter 5.

2.4.4 POSITIONAL ACCURACY

The positional accuracy describes how well a given position – plane coordinates and elevation value – agrees with the real value in the terrain for the object which the position accuracy has been determined.

The hydrography is as geographically correct as the scale allows. For other objects there may be cartographic editing.

The standard error of the hydrography is estimated to be 50 metres. Because of cartographic editing or generalizations, there may be local deviations up to 300 metres.

Read more about each detail type's positional accuracy in Chapter 5.

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

The TrueType fonts are attached in the files *GSDsympo.ttf* and *GSDoverk.ttf*.

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

3.1.3 OVERSIKT

This folder contains one sub folder with data and a polygon formed 100x100 kilometre grid, *rutnat.**, in the ordered format. The grid has an attribute, RUTA, which contains the designation of the index quad. In addition to the files containing the map information, there is also in this folder a file containing a list of the total number of objects in each layer.

3.1.4 ARCGIS (ONLY WITH SHAPE FORMAT)

If data is in Shape format, this folder contains an L YR file.

3.2 Sets of files

3.2.1 SHAPE FORMAT

When data is supplied in Shape format there are 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 RT90-2,5 gon V or Sweref 99 is being 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) is supplied as below.

Table 2. Annotation (text).

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

When data is supplied in MapInfo format (tab) there are 4 files per layer.

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

*.tab	Main file/Table definitions.
*.dat	Attribute file.
*.map	Geometry file.
*.id	Index file for graphical features.

The tab files do not have geometry or attribute indexes.

3.3 Division into layers

The information of GSD-General Map in vector format is divided into several layers based on line, point, text and polygon layers. As far as possible, file names have been given a logical structure. The first letter identifies the theme (for example “a” for administrative information and “v” for roads) and the second letter identifies the type of geometry (“l” for lines, “p/s” for points/symbols, “y” for polygon and “t” for text). The second part of the name, (after “_”), is common to all files in a folder. The sets of attributes vary between the different layers and are described in Section 5.

4 Layout and plotting of data

4.1 Extent of coverage

Each layer covers the whole of Sweden.

The MY, MS and MH layers is cut in 100X100 km index squares. Other layers are not cut.

The cutting is done to increase the speed when drawing.

4.2 On-screen presentation

4.2.1 GENERAL INFORMATION

The setting of plotting style of this product has been made in the scale of 1:250,000. This scale may therefore be considered an adequate reference scale. The scale of the data base is 1:100,000.

A suggested plotting order of the layers is presented in Appendix 1. The best result when printing is received if both the MY and the ML layers are used.

SYMBOLS

For a correct presentation of symbols, the TrueType font GSDoverk.ttf must be installed. When setting the plotting style for symbols, the attribute SRIKT has been used to make the orientation of the symbols correct.

TEXT

At text setting the attribute KKOD has determined style, colour and size. Other attributes used are TJUST (anchor point) and TRIKT (orientation). Though, the texts are not drawn with spaced characters. This is only presented in the attribute TSPARR as a percentage, representing the size of the supplied text compared with the length of the original, spaced characters.

4.2.2 SHAPE FORMAT

The standard GSD-General Map plotting style is used for all delivered layers. For use of the data in ArcMap, there are plotting style settings stored in the LYR file in the map data folder arcgis. In LYR files it is possible to steer whether features should be rescaled when the scale in the programme is changed. This has been done for the LYR file enclosed with the delivery. In addition, the LYR file contains settings indicating which layers should be presented within which scale intervals (see Appendix 1).

The text is supplied partly as points with the text as an attribute, partly as lines with the text as an attribute, and partly as text with a set plotting style in ArcInfo Cover-age format.

4.2.3 MAPINFO FORMAT

The standard GSD-General Map plotting style is used in all deliveries. This means that all features in all layers, at delivery, contains values of the properties that steer which colour, size and form they should be plotted with.

For correct rotation of the symbols at plotting, MapInfo 4 or later versions must be used.

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

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 Descriptions of layers and lists of codes

This section is a description, layer by layer, of the details included in the layers and the attributes used to describe these details.

5.1 Administrative units

5.1.1 DATA CAPTURE

LINEAGE

The creation of the administrative divisions and boundaries is based on the digitization of the old analog Overview Map.

5.1.2 MAINTENANCE FREQUENCY

Administrative units is updated continuously in collaboration with authorities and municipalities.

5.1.3 DATA QUALITY

COMPLETENESS

The administrative units are reported in full, except for smaller enclaves.

LOGICAL CONSISTENCY

Logical consistency is checked when updated and corrected. Boundary lines are hierarchically coded from national boundaries to municipality boundaries, so that no boundaries overlap.

The order is as follows:

1. National boundary
2. Territorial boundary
3. County boundary
4. Municipality boundary

THEMATIC ACCURACY

The thematic accuracy is very high.

POSITIONAL ACCURACY

In the case of overlapping boundaries, the boundary that is highest in the hierarchy is drawn.

5.1.4 AK POLYGON LAYER WITH DIVISION INTO MUNICIPALITIES

Contains polygon formed municipalities.

Table 4. Contents in AK polygon layer with division into municipalities.

Layer name	Category code	Description
AK_riks	414	Municipality

Table 5. Set of attributes for AK polygon layer with division into municipalities.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	KOMMUNNAMN	Text	30	Text	30	Municipality name (text string)
2	KKOD	Decimal	5.0	Integer	5	Category code
3	KATEGORI	Text	50	Text	50	Description of category code
4	LANSNAMN	Text	30	Text	30	County name (text string)
5	KOMMUNKOD	Decimal	4.0	Integer	4	Municipality code (numerical)
6	LANSKOD	Decimal	2.0	Integer	2	County code (numerical)
7	KOM_KOD	Text	4	Text	4	Municipality code (text string, possibly with an initial zero)
8	LAN_KOD	Text	2	Text	2	County code (text string, possibly with an initial zero)
9	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.1.5 AN POLYGON LAYER WITH DIVISION INTO COUNTIES

Contains polygon formed counties.

Table 6. Contents in AN polygon layer with division into counties.

Layer name	Category code	Description
AN_riks	413	County

Table 7. Set of attributes for AN polygon layer with division into counties.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	LANSNAMN	Text	30	Text	30	County name (text string)
2	KKOD	Decimal	5.0	Integer	5	Category code
3	KATEGORI	Text	50	Text	50	Description of category code
4	LANSKOD	Decimal	2.0	Integer	2	County code (numerical)

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
5	LAN_KOD	Text	2	Text	2	County code (text string, possibly with an initial zero)
6	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.1.6 AL LINE LAYER WITH ADMINISTRATIVE BOUNDARIES

Contains administrative boundaries. Limiting lines are hierarchically coded from county to national boundary.

Table 8. Contents in AL line layer with administrative boundaries.

Layer name	Category code	Description
AL_riks	4110	National boundary
AL_riks	4411	Territorial boundary
AL_riks	4130	County boundary
AL_riks	4140	Municipality boundary

Table 9. Set of attributes for AL line layer with administrative boundaries.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.1.7 AO LINE LAYER WITH DIVISION INTO PROVINCES

Contains province boundaries (the boundary for the province of Gotland is not included).

Table 10. Contents in AO line layer with division into provinces.

Layer name	Category code	Description
AO_riks	4410	Province boundary
AO_riks	4411	Province boundary, coinciding with other boundary

Table 11. Set of attributes for AO line layer with division into provinces.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2 Land data

5.2.1 DATA CAPTURE

LINEAGE

The creation of land data is based on the old analog Overview Map.

5.2.2 MAINTENANCE FREQUENCY

All major changes to built-up areas are updated in accordance with Statistics Sweden's update interval of urban areas. Otherwise, almost no areas are updated.

5.2.3 DATA QUALITY

COMPLETENESS

At present, there is no updating of the land data. Exceptions are built-up areas.

Alvar is only reported over Öland.

LOGICAL CONSISTENCY

For performance reasons, the ground layers are always divided at the edge of the index squares, except for urban areas.

The topology is checked after each change of the areas and the boundary lines for these are updated.

The four sublayers; water, buildings, other land and wetlands must not overlap and do not contain holes between them.

The layer for alvar soil is not a comprehensive surface. It is located on top of the polygon layer for fully covering land data.

Surface boundary lines must enclose the entire surface of the land data. The lines are created via a custom function and are never edited manually.

THEMATIC ACCURACY

Large areas are usually easy to map and have a high thematic accuracy. Smaller areas are generalized away and included in the surrounding areas.

POSITIONAL ACCURACY

Positional accuracy is as geographical correct as the scale range allows. Where objects have been generalized or moved for cartographic reasons, there are major local deviations.

5.2.4 ML LINE LAYER WITH POLYGON LIMITING LINES

Contains all limiting lines for land data.

Table 12. Contents in ML line layer with polygon limiting lines.

Layer name	Category code	Description
ML_riks	99	Land and vegetation (limiting line)
ML_riks	3035	Locality (limiting line)
ML_riks	3036	Other concentrated built-up area (limiting line)
ML_riks	4121	Limit for international water
ML_riks	6310	Glacier (limiting line)
ML_riks	9000	Shoreline, sea
ML_riks	9003	Island, shoreline (>5 km) in sea
ML_riks	9004	Island, shoreline (2-5 km) in sea
ML_riks	9005	Island, shoreline (<2 km) in sea
ML_riks	9008	Closing line, lake/watercourse
ML_riks	9009	Closing line, coast/wider watercourse
ML_riks	9010	Lake shoreline without outlet to watercourse
ML_riks	9013	Island, shoreline (>5 km) in lake without outlet
ML_riks	9014	Island, shoreline (2-5 km) in lake without outlet
ML_riks	9015	Island, shoreline (<2 km) in lake without outlet
ML_riks	9112	Lake shoreline, A1
ML_riks	9113	Island, shoreline (>5 km) in lake, A1
ML_riks	9114	Island, shoreline (2-5 km) in lake, A1
ML_riks	9115	Island, shoreline (<2 km) in lake, A1
ML_riks	9121	Double line watercourse

Layer name	Category code	Description
ML_riks	9122	Lake shoreline, A2
ML_riks	9123	Island, shoreline (>5 km) in lake, A2
ML_riks	9124	Island, shoreline (2-5 km) in lake A2
ML_riks	9125	Island, shoreline (<2 km) in lake A2
ML_riks	9132	Lake shoreline, A3
ML_riks	9133	Island, shoreline (>5 km) in lake, A3
ML_riks	9134	Island, shoreline (2-5 km) in lake, A3
ML_riks	9135	Island, shoreline (<2 km in lake, A3
ML_riks	9142	Lake shoreline, A4
ML_riks	9143	Island, shoreline (>5 km) in lake, A4
ML_riks	9144	Island, shoreline (2-5 km) in lake, A4
ML_riks	9145	Island, shoreline (<2 km) in lake, A4
ML_riks	9152	Lake shoreline, A5
ML_riks	9153	Island, shoreline (>5 km) in lake, A5
ML_riks	9154	Island, shoreline (2-5 km) in lake, A5
ML_riks	9155	Island, shoreline (<2 km) in lake, A5
ML_riks	9162	Lake shoreline, A6
ML_riks	9163	Island, shoreline (>5 km) in lake, A6
ML_riks	9164	Island, shoreline (2-5 km) in lake, A6
ML_riks	9165	Island, shoreline (<2 km) in lake, A6
ML_riks	9172	Lake shoreline, A7
ML_riks	9173	Island, shoreline (>5 km in lake, A7
ML_riks	9174	Island, shoreline (2-5 km) in lake, A7
ML_riks	9175	Island, shoreline (<2 km) in lake, A7

Layer name	Category code	Description
ML_riks	9182	Lake shoreline, A8
ML_riks	9183	Island, shoreline (>5 km) in lake, A8
ML_riks	9184	Island, shoreline (2-5 km) in lake, A8
ML_riks	9185	Island, shoreline (<2 km) in lake, A8
ML_riks	9232	Lake shoreline, B3
ML_riks	9233	Island, shoreline (>5 km) in lake, B3
ML_riks	9234	Island, shoreline (2-5 km) in lake, B3
ML_riks	9235	Island, shoreline (<2 km) in lake, B3
ML_riks	9242	Lake shoreline, B4
ML_riks	9243	Island, shoreline (>5 km) in lake, B4
ML_riks	9244	Island, shoreline (2-5 km) in lake, B4
ML_riks	9245	Island, shoreline (<2 km) in lake, B4
ML_riks	9252	Lake shoreline, B5
ML_riks	9253	Island, shoreline (>5 km) in lake, B5
ML_riks	9254	Island, shoreline (2-5 km) in lake, B5
ML_riks	9255	Island, shoreline (<2 km) in lake, B5
ML_riks	9262	Lake shoreline, B6
ML_riks	9263	Island, shoreline (>5 km) in lake, B6
ML_riks	9264	Island, shoreline (2-5 km) in lake, B6
ML_riks	9265	Island, shoreline (<2 km) in lake, B6
ML_riks	9272	Lake shoreline, B7
ML_riks	9273	Island, shoreline (>5 km) in lake, B7
ML_riks	9274	Island, shoreline (2-5 km) in lake, B7
ML_riks	9275	Island, shoreline (<2 km) in lake, B7

Layer name	Category code	Description
ML_riks	9282	Lake shoreline, B8
ML_riks	9283	Island, shoreline (>5 km) in lake, B8
ML_riks	9284	Island, shoreline (2-5 km) in lake, B8
ML_riks	9285	Island, shoreline (<2 km) in lake, B8
ML_riks	9342	Lake shoreline, C4
ML_riks	9343	Island, shoreline (>5 km) in lake, C4
ML_riks	9344	Island, shoreline (2-5 km) in lake, C4
ML_riks	9345	Island, shoreline (<2 km) in lake, C4
ML_riks	9352	Lake shoreline, C5
ML_riks	9353	Island, shoreline (>5 km) in lake, C5
ML_riks	9354	Island, shoreline (2-5 km) in lake, C5
ML_riks	9355	Island, shoreline (<2 km) in lake, C5
ML_riks	9362	Lake shoreline, C6
ML_riks	9363	Island, shoreline (>5 km) in lake, C6
ML_riks	9364	Island, shoreline (2-5 km) in lake, C6
ML_riks	9365	Island, shoreline (<2 km) in lake, C6
ML_riks	9372	Lake shoreline, C7
ML_riks	9373	Island, shoreline (>5 km) in lake, C7
ML_riks	9374	Island, shoreline (2-5 km) in lake, C7
ML_riks	9375	Island, shoreline (<2 km) in lake, C7
ML_riks	9382	Lake shoreline, C8
ML_riks	9383	Island, shoreline (>5 km) in lake, C8
ML_riks	9384	Island, shoreline (2-5 km) in lake, C8
ML_riks	9385	Island, shoreline (<2 km) in lake, C8

Layer name	Category code	Description
ML_riks	9452	Lake shoreline, D5
ML_riks	9453	Island, shoreline (>5 km) in lake, D5
ML_riks	9454	Island, shoreline (2-5 km) in lake, D5
ML_riks	9455	Island, shoreline (<2 km) in lake, D5
ML_riks	9462	Lake shoreline, D6
ML_riks	9463	Island, shoreline (>5 km) in lake, D6
ML_riks	9464	Island, shoreline (2-5 km) in lake, D6
ML_riks	9465	Island, shoreline (<2 km) in lake, D6
ML_riks	9472	Lake shoreline, D7
ML_riks	9473	Island, shoreline (>5 km) in lake, D7
ML_riks	9474	Island, shoreline (2-5 km) in lake, D7
ML_riks	9475	Island, shoreline (<2 km) in lake, D7
ML_riks	9482	Lake shoreline, D8
ML_riks	9483	Island, shoreline (>5 km) in lake, D8
ML_riks	9484	Island, shoreline (2-5 km) in lake, D8
ML_riks	9485	Island, shoreline (<2 km) in lake, D8
ML_riks	9552	Lake shoreline, E5
ML_riks	9553	Island, shoreline (>5 km) in lake, E5
ML_riks	9554	Island, shoreline (2-5 km) in lake, E5
ML_riks	9555	Island, shoreline (<2 km) in lake, E5
ML_riks	9562	Lake shoreline, E6
ML_riks	9563	Island, shoreline (>5 km) in lake, E6
ML_riks	9564	Island, shoreline (2-5 km) in lake, E6
ML_riks	9565	Island, shoreline (<2 km) in lake, E6

Layer name	Category code	Description
ML_riks	9572	Lake shoreline, E7
ML_riks	9573	Island, shoreline (>5 km) in lake, E7
ML_riks	9574	Island, shoreline (2-5 km) in lake, E7
ML_riks	9575	Island, shoreline (<2 km) in lake, E7
ML_riks	9582	Lake shoreline, E8
ML_riks	9583	Island, shoreline (>5 km) in lake, E8
ML_riks	9584	Island, shoreline (2-5 km) in lake, E8
ML_riks	9585	Island, shoreline (<2 km) in lake, E8
ML_riks	9662	Lake shoreline, F6
ML_riks	9663	Island, shoreline (>5 km) in lake, F6
ML_riks	9664	Island, shoreline (2-5 km) in lake, F6
ML_riks	9665	Island, shoreline (<2 km) in lake, F6
ML_riks	9672	Lake shoreline, F7
ML_riks	9673	Island, shoreline (>5 km) in lake, F7
ML_riks	9674	Island, shoreline (2-5 km) in lake, F7
ML_riks	9675	Island, shoreline (<2 km) in lake, F7
ML_riks	9682	Lake shoreline, F8
ML_riks	9683	Island, shoreline (>5 km) in lake, F8
ML_riks	9684	Island, shoreline (2-5 km) in lake, F8
ML_riks	9685	Island, shoreline (<2 km) in lake, F8
ML_riks	9772	Lake shoreline, G7
ML_riks	9773	Island, shoreline (>5 km) in lake, G7
ML_riks	9774	Island, shoreline (2-5 km) in lake, G7
ML_riks	9775	Island, shoreline (<2 km) in lake, G7

Layer name	Category code	Description
ML_riks	9782	Lake shoreline, G8
ML_riks	9783	Island, shoreline (>5 km) in lake, G8
ML_riks	9784	Island, shoreline (2-5 km) in lake, G8
ML_riks	9785	Island, shoreline (<2 km) in lake, G8
ML_riks	9872	Lake shoreline, H7
ML_riks	9873	Island, shoreline (>5 km) in lake, H7
ML_riks	9874	Island, shoreline (2-5 km) in lake, H7
ML_riks	9875	Island, shoreline (<2 km) in lake, H7
ML_riks	9882	Lake shoreline, H8
ML_riks	9883	Island, shoreline (>5 km) in lake, H8
ML_riks	9884	Island, shoreline (2-5 km) in lake, H8
ML_riks	9885	Island, shoreline (<2 km) in lake, H8

Table 13. Set of attributes for ML line layer with polygon limiting lines.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.5 MK LINE LAYER WITH COAST

Contains coastline. Note: the coastline is also delivered in the ML layer.

Table 14. Contents in MK line layer with coast.

Layer name	Category code	Description
MK_riks	9000	Shoreline, sea
MK_riks	9009	Closing line, coast/wider watercourse

Table 15. Set of attributes for MK line layer with coast.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.6 MY POLYGON LAYER WITH FULLY COVERING LAND DATA

Contains polygons for fully covering land data.

Table 16. Contents in MY polygon layer with fully covering land data.

Layer name	Category code	Description
MY_riks	302	Other concentrated built-up area
MY_riks	303	Locality
MY_riks	601	Forest
MY_riks	611	Open land
MY_riks	612	Bare limestone area
MY_riks	631	Region above the tree line
MY_riks	641	Glacier
MY_riks	901	Water
MY_riks	902	Sea, territorial water
MY_riks	911	Marshland

Table 17. Set of attributes for MY polygon layer with fully covering land data.

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	NAMN1	Text	50	Text	50	Names in Swedish
4	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
5	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.7 MO POLYGON LAYER WITH ISLANDS

Contains polygon formed islands. These have not been classified by land type.

Table 18. Contents in MO polygon layer with islands.

Layer name	Category code	Description
MO_riks	801	Island

Table 19. Set of attributes for MO polygon layer with islands.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.8 MS POLYGON LAYER WITH LAKES

Contains lakes and larger watercourses.

Table 20. Contents in MS polygon layer with lakes.

Layer name	Category code	Description
MS_riks	901	Water polygon

Table 21. Set of attributes for MS polygon layer with lakes.

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	NAMN1	Text	50	Text	50	Names in Swedish
4	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
5	V_TYP	Text	10	Text	10	Type and water polygon (lake or watercourse)
6	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.9 MH POLYGON LAYER WITH SEA

Contains territorial water.

Table 22. Contents in MH polygon layer with sea.

Layer name	Category code	Description
MH_riks	902	Sea, territorial water

Table 23. Set of attributes for in MH polygon layer with sea.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.2.10 MB POLYGON LAYER WITH LOCALITIES

Contains localities. The polygons for localities from Statistics Sweden have been generalized. When updating, minor changes have been left out considering the scale.

Table 24. Contents in MB polygon layer with localities.

Layer name	Category code	Description
MB_riks	302	Other concentrated built-up area
MB_riks	303	Locality

Table 25. Set of attributes for MB polygon layer with localities.

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	TATNR	Decimal	4.0	Integer	4	Locality code according to Statistics Sweden
4	LANSKOD	Decimal	2.0	Integer	2	County code (numerical)
5	AREASCB	Decimal	12.1	Decimal	12.1	Locality size according to Statistics Sweden
6	BEF	Decimal	7.0	Integer	7	Population according to Statistics Sweden
7	NAMN1	Text	50	Text	50	Names in Swedish according to Statistics Sweden
8	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
9	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3 Transport networks

5.3.1 DATA CAPTURE

LINEAGE

Roads and road symbols

Lantmäteriet updates private roads outside municipal areas of responsibility in NVDB through aerial image interpretation. Public roads are updated mainly through collaboration with the Swedish Transport Administration and the National Road database (NVDB). The NVDB contains municipal, state, private and forestry roads and ferry routes.

Tunnel openings for roads are collected with the help of information from the Swedish Transport Administration.

Railway and railway symbols

Most of the railways are updated using orthophotographs and previous field work from Lantmäteriet. Aerial image interpretation updates railways if there have been any changes such as new railways, removed railways or changes to the track route. Other railways may be delivered to Lantmäteriet by municipalities via the collaboration agreement.

Electricity transmission lines

Updating of power lines is carried out in collaboration with the electricity companies in Sweden. Lantmäteriet updates power lines from the electricity companies' documentation, and with some help of aerial image interpretation.

Facilities and trails

Airports are collected through information from AIP, the Swedish Civil Aviation Administration's publication and KSAK, the Royal Swedish Aero Club.

Trails are updated through cooperation agreements with municipalities.

5.3.2 MAINTENANCE FREQUENCY

Roads, road symbols and railways are updated through the work method event-driven updating.

Airports and railway stations are updated annually through editorial collection.

5.3.3 DATA QUALITY

COMPLETENESS

Roads and road symbols

The completeness of road information is generally high since the Lantmäteriet works in collaboration with the Swedish Transport Administration but varies due to cartographic generalization. A reduction of the roads has taken place due to the scale, more in the south than in northern Sweden. Private roads shorter than 800 m that end blindly have generally been excluded, except those that have been considered to have special significance. Ferry routes with road ferries in regular traffic within the country are reported if they are operated by the Swedish Transport Administration Färjerederiet. Other ferry routes are reported if they connect to the state road network or if they have year-round traffic with a set timetable.

Cartographic generalization takes place of the road symbols, so the completeness can vary.

Railway and railway symbols

The completeness of railways is generally high but varies due to cartographic generalization, for example in station areas.

Where regular traffic has ceased, the railway will be included if the track remains.

The completeness of tunnel openings is high, but some cartographic generalization occurs.

The completeness of railway stations is high. Reported in full in agreement with Samtrafiken i Sverige AB.

Electricity transmission lines

Completeness of information on national transmission lines is high. Completeness is not as high for regional transmission lines. Due to cartographic generalization, completeness may be lower. Underground transmission lines are not presented.

Facilities and trails

Only national and county hiking trails (minimum length about 20 km) and trails within the mountain area are reported and have high completeness.

Completeness of airports is high.

LOGICAL CONSISTENCY

Roads

Lines in a geometric line network are coherent and are divided into connection points (see figure 2 below).

Figure 2. A geometric line network where the roads are divided in the connection points.



Railway

Lines in a geometric line network are coherent and are divided into connection.

Road symbols and railway symbols

Logical consistency is not checked.

Electricity transmission lines

Due to cartographic generalization, it is not possible to set any requirements for logical consistency.

Facilities and trails

No requirement of logical consistency.

THEMATIC ACCURACY

Roads and road symbols

Cartographic generalization of roads is done where it becomes too crowded to report the correct road class. A road can never be generalized up to a better road class.

The public roads that come from NVDB generally have good thematic accuracy.

Railway and railway symbols

The thematic accuracy is high.

Electricity transmission lines

The thematic accuracy is high.

Facilities and trails

The thematic accuracy is high.

POSITIONAL ACCURACY

The position accuracy of the objects varies due to cartographic generalization.

For objects that are reported with symbols, the full distribution is not reported.

5.3.4 VL LINE LAYER WITH ROADS

Contains public and private roads.

Table 26. Contents in VL line layer with roads.

Layer name	Category code	Description
VL_riks	5011	Motorway, road numbers E4-99
VL_riks	5012	Motorway, road numbers E4-99, underpass
VL_riks	5013	Motorway, road numbers E4-99, tunnel
VL_riks	5021	Motorway, road numbers 100-499
VL_riks	5022	Motorway, road numbers 100-499, underpass
VL_riks	5023	Motorway, road numbers 100-499, tunnel
VL_riks	5031	Motorway, road numbers >500
VL_riks	5032	Motorway, road numbers >500, underpass
VL_riks	5033	Motorway, road numbers >500, tunnel
VL_riks	5111	Trunk road, road numbers E4-99
VL_riks	5112	Trunk road, road numbers E4-99, underpass
VL_riks	5113	Trunk road, road numbers E4-99, tunnel
VL_riks	5121	Trunk road, road numbers 100-499
VL_riks	5122	Trunk road, road numbers 100-499, underpass
VL_riks	5123	Trunk road, road numbers 100-499, tunnel
VL_riks	5131	Trunk road, road numbers >500
VL_riks	5132	Trunk road, road numbers >500, underpass
VL_riks	5133	Trunk road, road numbers >500, tunnel

Layer name	Category code	Description
VL_riks	5211	Public road >7m, road numbers E4-99
VL_riks	5212	Public road >7m, road numbers E4-99, underpass
VL_riks	5213	Public road >7m, road numbers E4-99, tunnel
VL_riks	5221	Public road >7m, road numbers 100-499
VL_riks	5222	Public road >7m, road numbers 100-499, underpass
VL_riks	5223	Public road >7m, road numbers 100-499, tunnel
VL_riks	5225	Public road >7m, road numbers 100-499, ferry link
VL_riks	5231	Public road >7m, road numbers >500
VL_riks	5232	Public road >7m, road numbers >500, underpass
VL_riks	5233	Public road >7m, road numbers >500, tunnel
VL_riks	5235	Public road >7m, road numbers >500, ferry link
VL_riks	5311	Public road 5-7m, road numbers E4-99
VL_riks	5312	Public road 5-7m, road numbers E4-99, underpass
VL_riks	5313	Public road 5-7m, road numbers E4-99, tunnel
VL_riks	5321	Public road 5-7m, road numbers 100-499
VL_riks	5322	Public road 5-7m, road numbers 100-499, underpass
VL_riks	5323	Public road 5-7m, road numbers 100-499, tunnel
VL_riks	5325	Public road 5-7m, road numbers 100-499, ferry link
VL_riks	5331	Public road 5-7m, road numbers >500

Layer name	Category code	Description
VL_riks	5332	Public road 5-7m, road numbers >500, underpass
VL_riks	5333	Public road 5-7m, road numbers >500, tunnel
VL_riks	5334	Road under construction
VL_riks	5335	Public road 5-7m, road numbers >500, ferry link
VL_riks	5411	Public road <5m, road numbers E4-99
VL_riks	5412	Public road <5m, road numbers E4-99, underpass
VL_riks	5413	Public road <5m, road numbers E4-99, tunnel
VL_riks	5421	Public road <5m, road numbers 100-499
VL_riks	5422	Public road <5m, road numbers 100-499, underpass
VL_riks	5423	Public road <5m, road numbers 100-499, tunnel
VL_riks	5425	Public road <5m, road numbers 100-499, ferry link
VL_riks	5431	Public road <5m, road numbers >500
VL_riks	5432	Public road <5m, road numbers >500, underpass
VL_riks	5433	Public road <5m, road numbers >500, tunnel
VL_riks	5435	Public road <5m, road numbers >500, ferry link
VL_riks	5551	Private road
VL_riks	5552	Private road, underpass
VL_riks	5553	Private road, tunnel
VL_riks	5555	Private road, ferry link

Table 27. Set of attributes for VL line layer with roads.

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	VAGNR1	Text	8	Text	8	Road number 1
4	VAGNR2	Text	8	Text	8	Road number 2
5	VAGNR3	Text	8	Text	8	Road number 3
6	DETN	Text	50	Text	50	Ferry destination
7	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3.5 VS POINT LAYER WITH ROAD SYMBOLS

Contains symbols belonging to public and private roads.

Table 28. Contents in VS point layer with road symbols.

Layer name	Category code	Description
VS_riks	511	Traffic junction, complete
VS_riks	512	Traffic junction, incomplete
VS_riks	521	Tunnel symbol, motorway
VS_riks	522	Tunnel symbol, trunk road
VS_riks	523	Tunnel symbol, public road, > 7 m
VS_riks	524	Tunnel symbol, public road, 5 - 7 m
VS_riks	525	Tunnel symbol, public road, < 5 m
VS_riks	526	Tunnel symbol, private road

Table 29. Set of attributes for VS point layer with road 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	Orientation
4	TRANR	Text	10	Text	10	Traffic junction number
5	NAMN1	Text	50	Text	50	Names in Swedish
6	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
7	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3.6 JL LINE LAYER WITH RAILWAYS

Contains railways.

Table 30. Contents in JL line layer with railways.

Layer name	Category code	Description
JL_riks	5611	Railway, single track
JL_riks	5612	Railway, single track, underpass
JL_riks	5613	Railway, single track, tunnel
JL_riks	5621	Railway, double track
JL_riks	5622	Railway, double track, underpass
JL_riks	5623	Railway, double track, tunnel
JL_riks	5631	Railway, narrow track
JL_riks	5632	Railway, narrow track, underpass
JL_riks	5633	Railway, narrow track, tunnel
JL_riks	5641	Railway, industrial track

Layer name	Category code	Description
JL_riks	5642	Railway, industrial track, underpass
JL_riks	5643	Railway, industrial track, tunnel
JL_riks	5651	Railway under construction
JL_riks	5652	Railway under construction, underpass
JL_riks	5653	Railway under construction, tunnel

Table 31. Set of attributes for JL line layer with railways.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3.7 JS POINT LAYER WITH RAILWAY SYMBOLS

Contains symbols belonging to railways.

Table 32. Contents in JS point layer with railway symbols.

Layer name	Category code	Description
JS_riks	561	Railway station
JS_riks	562	Railway tunnel entry

Table 33. Set of attributes for JS point layer with railway 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	Orientation
4	NAMN1	Text	50	Text	50	Names in Swedish

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
5	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
6	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3.8 KL LINE LAYER WITH ELECTRICITY TRANSMISSION LINES

Contains electricity transmission lines.

Table 34. Contents in KL line layer with electricity transmission lines.

Layer name	Category code	Description
KL_riks	4510	Electricity transmission line, national
KL_riks	4520	Electricity transmission line, regional
KL_riks	4530	Electricity transmission line, national and regional

Table 35. Set of attributes for KL line layer with electricity transmission lines.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.3.9 BO LINE LAYER WITH FACILITIES AND TRAILS

Contains facilities and trails.

Table 36. Contents in BO line layer with facilities and trails.

Layer name	Category code	Description
BO_riks	3610	Dam
BO_riks	5561	Mountain trail
BO_riks	5566	Mountain trail that coincides with other line
BO_riks	5571	Hiking trail
BO_riks	5576	Hiking trail that coincides with other line
BO_riks	5710	Airport with runway longer than 1200 metres
BO_riks	5720	Airport with runway shorter than 1200 metres
BO_riks	5810	Cableway

Table 37. Set of attributes for BO line layer with facilities and trails.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.4 Built-up area

5.4.1 DATA CAPTURE

LINEAGE

Collection and updating takes place partly through Lantmäteriet's aerial image interpretation and partly through collaboration with the Swedish municipalities.

Aerodrome, grass runways is updated by editorial collection. The information about airports comes from AIP, the Swedish Civil Aviation Administration's publication and KSAK, the Royal Swedish Aero Club.

Buildings are reported as point symbols without linked attributes. These symbols are not scalable.

5.4.2 MAINTENANCE FREQUENCY

Tower, mast, house, wind power station, nuclear power station and hospital are updated through the work method event-driven updating.

Airport, heliport and ferry are updated annually through editorial collection.

5.4.3 DATA QUALITY

COMPLETENESS

The completeness of the items that are updated through editorial collection is high. For other objects the completeness is low. A house symbol often represents several buildings.

LOGICAL CONSISTENCY

The objects are independent.

THEMATIC ACCURACY

The thematic accuracy is high.

POSITIONAL ACCURACY

Due to cartographic generalization, major position errors occur.

5.4.4 BS POINT LAYER WITH FACILITY AND BUILT-UP AREA SYMBOLS

Contains symbols for facilities and built-up areas

Table 38. Contents in BS point layer with facility and built-up area symbols.

Layer name	Category code	Description
BS_riks	321	Mine
BS_riks	322	Tower
BS_riks	323	Mast

Layer name	Category code	Description
BS_riks	326	Chimney
BS_riks	331	House, size class 1
BS_riks	332	House, size class 2
BS_riks	333	House, size class 3
BS_riks	334	House, L-shaped
BS_riks	335	Palace
BS_riks	341	Goahti
BS_riks	351	Parish church
BS_riks	352	Other church, chapel
BS_riks	361	Wind power station
BS_riks	362	Nuclear power station
BS_riks	381	Emergency hospital
BS_riks	421	Ancient site or monument (R-symbol)
BS_riks	514	Pylon
BS_riks	551	Ferry
BS_riks	571	Aerodrome, grass runways
BS_riks	572	Heliport
BS_riks	581	Lighthouse
BS_riks	591	Ski lift
BS_riks	921	Lock

Table 39. Set of attributes for BS point layer with facility and built-up area 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	Orientation
4	NAMN1	Text	50	Text	50	Names in Swedish
5	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
6	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.5 Earth forms

5.5.1 DATA CAPTURE

LINEAGE

The Arctic Circle is a line representing the North Middle Arctic Circle. It is mathematically generated.

Elevations points are reported after a certain selection, consisting of un-marked points or water surfaces measured by levelling. Height-determined water surface shall apply to mean water levels. In regulated water, the highest and lowest water levels are stated. Information originally comes from Lantmäteriet's geodetic archive and older map material as well as editorial collection on regulated water from SMHI.

5.5.2 MAINTENANCE FREQUENCY

The Arctic Circle is updated approximately every five years.

Elevation points are not updated.

5.5.3 DATA QUALITY

COMPLETENESS

Completeness of the Arctic circle is high.

Completeness of elevation points follows selection.

LOGICAL CONSISTENCY

The Arctic Circle is a stand-alone line object and has no requirement for logical consistency.

Elevation points are stand-alone point objects and have no requirements for logical consistency.

THEMATIC ACCURACY

The thematic accuracy is very high.

POSITIONAL ACCURACY

The Arctic Circle is calculated mathematically.

When editing an elevation point, only the text linked to the point is moved, never the symbol itself.

5.5.4 GL LINE LAYER WITH EARTH FORMS

Contains the Arctic Circle.

Table 40. Contents in GL line layer with earth forms.

Layer name	Category code	Description
GL_riks	1610	Arctic Circle

Table 41. Set of attributes for GL line layer with earth forms.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.5.5 GS POINT LAYER WITH EARTH FORMS

Contains elevation points.

Table 42. Contents in GS line layer with earth forms.

Layer name	Category code	Description
GS_riks	101	Elevation point

Table 43. Set of attributes for GS line layer with earth forms.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.6 Military areas

5.6.1 DATA CAPTURE

LINEAGE

Older decisions on boundary lines for military zones have been digitized from paper maps. Some updating has been carried out using information from the Swedish Fortifications Agency, among other sources. A thorough establishment of boundary lines has been carried out between 2011 and 2017 for those military zones which are still used by the Swedish Armed Forces.

5.6.2 MAINTENANCE FREQUENCY

Military zones are updated through the work method event-driven updating.

5.6.3 DATA QUALITY

COMPLETENESS

The areas have high completeness. Areas less than 1 km are not included.

LOGICAL CONSISTENCY

Military zones are independent objects that are not connected to any other objects.

Military boundaries are area boundaries that individually form closed areas.

The military zones are reported as boundaries with lines in the QL layer and as areas in the QO and QF layer.

Within the group, there is a hierarchical order for the various boundaries. The order within the group is as follows:

1. Military firing range
2. Military training area

THEMATIC ACCURACY

An increase in the quality of the areas is made together with the Armed Forces.

POSITIONAL ACCURACY

The position accuracy of the objects varies due to cartographic generalization.

The boundary lines on the map show the approximate position of boundaries for an artillery range or a training ground. It is always the signs put up in terrain by the Swedish Armed Forces which determine where the actual boundary is.

5.6.4 QO POLYGON LAYER WITH MILITARY TRAINING AREAS

Contains military training areas.

Table 44. Contents in QO polygon layer with military training areas.

Layer name	Category code	Description
QO_riks	432	Military training area

Table 45. Set of attributes for QO polygon layer with military training areas.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.6.5 QF POLYGON LAYER WITH MILITARY FIRING RANGES

Contains military firing ranges.

Table 46. Contents in QF polygon layer with military firing ranges.

Layer name	Category code	Description
QY_riks	431	Military firing range

Table 47. Set of attributes for QF polygon layer with military firing ranges.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.6.6 QL LINE LAYER WITH MILITARY ZONES

Contains limiting lines for military zones.

Table 48. Contents in QL line layer with military zones.

Layer name	Category code	Description
QL_riks	4310	Military firing range
QL_riks	4320	Military training area

Table 49. Set of attributes for QL line layer with military zones.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.7 Protected areas

5.7.1 DATA CAPTURE

LINEAGE

Information on nature conservation areas is obtained through collaboration with the Swedish Environmental Protection Agency. The Swedish Environmental Protection Agency in turn receives information from each county administrative board. The areas have been digitized by the county administrative boards using existing real property boundaries and aerial photographs. New nature conservation areas are measured in the field using GPS, but some of the older areas have also been measured using other high accuracy measurement methods or GPS.

5.7.2 MAINTENANCE FREQUENCY

Nature conservation areas is updated through the work method event-driven updating.

The date of decision and further information is kept by the [Swedish Environmental Protection Agency](#).

5.7.3 DATA QUALITY

COMPLETENESS

The areas have very high completeness and are presented in accordance with the decision of the County Administrative Board.

Nature reserves and national parks are reported in full, while smaller areas have been excluded for other protected areas.

LOGICAL CONSISTENCY

Nature conservation boundaries are area boundaries that individually form closed areas. The nature conservation areas are reported as boundaries with lines in the NL layer and as areas in the NW layer. Within the area group, there is a hierarchical order for the various boundaries. Bird sanctuaries and seal sanctuaries may overlap nature reserves. The order within the group is as follows:

1. National Park
2. Nature reserve
3. Cultural reserve
4. Bird protection area and seal protection area

THEMATIC ACCURACY

The thematic accuracy is high.

POSITIONAL ACCURACY

The position accuracy of the objects varies due to cartographic generalization.

5.7.4 NL LINE LAYER WITH NATURE AND CULTURE CONSERVATION AREAS

Contains limiting lines for nature and culture conservation areas.

Table 50. Contents in NL line layer with nature and culture conservation areas.

Layer name	Category code	Description
NL_riks	4210	National park
NL_riks	4220	Nature reserve
NL_riks	4290	Culture reserve
NL_riks	4260	Bird protection area
NL_riks	4270	Seal protection area

Table 51. Set of attributes for NL line layer with nature and culture conservation areas.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.7.5 NS POINT LAYER WITH SMALLER RESERVES

Contains symbols for smaller nature reserves.

Table 52. Contents in NS point layer with smaller reserves.

Layer name	Category code	Description
NS_riks	411	Nature reserve, smaller

Table 53. Set of attributes for NS point layer with smaller reserves.

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	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.7.6 NV POLYGON LAYER WITH NATURE AND CULTURE CONSERVATION AREAS

Contains national parks.

Table 54. Contents in NV polygon layer with nature and culture conservation areas.

Layer name	Category code	Description
NV_riks	422	Nature reserve
NV_riks	428	National park
NV_riks	429	Culture reserve

Table 55. Set of attributes for NV polygon layer with nature and culture conservation areas.

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	NAMN1	Text	50	Text	50	Names in Swedish
4	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
5	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.7.7 ND POLYGON LAYER WITH ANIMAL PROTECTION AREAS

Contains bird and seal protection areas.

Table 56. Contents in ND polygon layer with animal protection areas.

Layer name	Category code	Description
ND_riks	426	Bird protection area
ND_riks	427	Seal protection area

Table 57. Set of attributes for ND polygon layer with animal protection areas.

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	NAMN1	Text	50	Text	50	Names in Swedish
4	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
5	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.8 Hydrography

5.8.1 DATA CAPTURE

LINEAGE

The hydrography has been taken from the Road Map (scale 1: 100,000). Based on the road map's sub-original, scripts were drawn, which were then scanned, coded and vectorized.

The watercourse codes have the letters A - H, which are taken from SMHI's system of how large areas each watercourse drains. The codes have numbers that can be used to graphically represent the watercourses in a tapered manner from outlet to source, see Appendix 4.

5.8.2 MAINTENANCE FREQUENCY

The hydrography is not updated, except for in connection with changes for other objects.

5.8.3 DATA QUALITY

COMPLETENESS

Only a selection of canals is included.

Minimum length for watercourses is 5 km. Shorter watercourses can be included in some flat areas to emphasize the geographical character.

LOGICAL CONSISTENCY

The watercourses are not coherent and therefore do not form a network.

THEMATIC ACCURACY

The thematic accuracy is high.

POSITIONAL ACCURACY

The mean square error is estimated to 50 m. The position accuracy of the objects varies due to cartographic generalization up to 300 m.

5.8.4 HL LINE LAYER WITH WATERCOURSES

Contains watercourses.

Table 58. Contents in HL line layer with watercourses.

Layer name	Category code	Description (see Appendix 4)
HL_riks	9021	Canal, major
HL_riks	9022	Canal, minor
HL_riks	9110	Watercourse, width less than 100 m, A1
HL_riks	9120	Watercourse, width less than 100 m, A2

Layer name	Category code	Description (see Appendix 4)
HL_riks	9130	Watercourse, width less than 100 m, A3
HL_riks	9140	Watercourse, width less than 100 m, A4
HL_riks	9150	Watercourse, width less than 100 m, A5
HL_riks	9160	Watercourse, width less than 100 m, A6
HL_riks	9170	Watercourse, width less than 100 m, A7
HL_riks	9180	Watercourse, width less than 100 m, A8
HL_riks	9230	Watercourse, width less than 100 m, B3
HL_riks	9240	Watercourse, width less than 100 m, B4
HL_riks	9250	Watercourse, width less than 100 m, B5
HL_riks	9260	Watercourse, width less than 100 m, B6
HL_riks	9270	Watercourse, width less than 100 m, B7
HL_riks	9280	Watercourse, width less than 100 m, B8
HL_riks	9340	Watercourse, width less than 100 m, C4
HL_riks	9350	Watercourse, width less than 100 m, C5
HL_riks	9360	Watercourse, width less than 100 m, C6
HL_riks	9370	Watercourse, width less than 100 m, C7
HL_riks	9380	Watercourse, width less than 100 m, C8
HL_riks	9450	Watercourse, width less than 100 m, D5
HL_riks	9460	Watercourse, width less than 100 m, D6
HL_riks	9470	Watercourse, width less than 100 m, D7
HL_riks	9480	Watercourse, width less than 100 m, D8
HL_riks	9550	Watercourse, width less than 100 m, E5
HL_riks	9560	Watercourse, width less than 100 m, E6
HL_riks	9570	Watercourse, width less than 100 m, E7

Layer name	Category code	Description (see Appendix 4)
HL_riks	9580	Watercourse, width less than 100 m, E8
HL_riks	9660	Watercourse, width less than 100 m, F6
HL_riks	9670	Watercourse, width less than 100 m, F7
HL_riks	9680	Watercourse, width less than 100 m, F8
HL_riks	9770	Watercourse, width less than 100 m, G7
HL_riks	9780	Watercourse, width less than 100 m, G8
HL_riks	9870	Watercourse, width less than 100 m, H7
HL_riks	9880	Watercourse, width less than 100 m, H8

Table 59. Set of attributes for HL line layer with watercourses.

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	NAMN1	Text	50	Text	50	Names in Swedish
4	NAMN2	Text	50	Text	50	Names in other languages (e.g. Saami)
5	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.9 Place-names and information text

5.9.1 DATA CAPTURE

LINEAGE

Place name

The collection of place names began during the production of the Economic map in the 1930s. Place names established by Lantmäteriet have also been collected through field work with records, in which the local population have passed on information. The names have subsequently been checked by place name experts and compared to records in the place name archives in Uppsala, Gothenburg and Lund.

Since the field work was completed in 2005, collaboration between the various authorities and municipalities has become a major part of the current collection of place names for basic data at Lantmäteriet. A selection of the collected place names is presented in the Overview Map.

Information text

Presented based on a list of information text that has changed over time. The purpose of the information text is to give the data or map user further information on matters of public interest.

5.9.2 MAINTENANCE FREQUENCY

Place names and information text are continuously updated, place names by name decisions and information text by ongoing updating of topographical objects.

5.9.3 DATA QUALITY

COMPLETENESS

Cartographic generalization takes place, otherwise the place name and information text have high completeness and are nationwide.

Place names have high completeness and are nationwide. In minority areas place names are also presented in Finnish, Meänkieli and Sami.

LOGICAL CONSISTENCY

Place names and information text are reported as cartographic text and have no connection to the objects that the text refers to.

There are certain place names that are also reported as attributes to topographical objects, e.g. lakes, streams, nature reserves and churches.

THEMATIC ACCURACY

The thematic accuracy is high.

POSITIONAL ACCURACY

Place names and information text are reported as cartographic texts, so positional accuracy is not relevant.

5.9.4 DELIVERY FORMAT FOR TEXT

The text is supplied either in two layers in Shape format and one layer in ArcInfo Coverage format or in two layers in MapInfo format.

Table 60. Text layer in Shape-format.

Shape
Point layer (TX)
Line layer (TL)

Table 61. Text layer in ArcInfo-coverage-format.

ArcInfo Coverage
Text layer (TX)

Table 62. Text layer in MapInfo-format.

MapInfo
Text layer (TX)
Point/line layer (TG)

The layers contain cartographically positioned text in points or in lines.

The point text is positioned based on the text's anchor point, and the text is created based on this point. For MapInfo the point is positioned so that text position 1 (lower left corner) is used for all texts.

The line text is described by the text's centre line. The line has the same length as the one given to the text in production. Though, for curved texts this is not always true.

Texts that are within the delivered area shall always come with delivery irrespective of if the anchor point falls outside of the area. In this way there will always be the same number of texts in the point, line, and text presentation of the text.

All 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 63. Content in layers with map text.


Layer name	Category code	Description
TX_riks, TL_riks, TG_riks	1	Single house or farm
TX_riks, TL_riks, TG_riks	2	Small village
TX_riks, TL_riks, TG_riks	3	Large village
TX_riks, TL_riks, TG_riks	4	Locality, population larger than 100,000
TX_riks, TL_riks, TG_riks	5	Locality, population, 200 – 1,999
TX_riks, TL_riks, TG_riks	7	Locality, population, 2,000 – 9,999
TX_riks, TL_riks, TG_riks	8	Locality, population, 10,000 – 49,999

Layer name	Category code	Description
TX_riks, TL_riks, TG_riks	9	Locality, population, 50,000 – 99,999
TX_riks, TL_riks, TG_riks	10	Other concentrated built-up area, small
TX_riks, TL_riks, TG_riks	11	Other concentrated built-up area, large
TX_riks, TL_riks, TG_riks	12	Part of locality, small
TX_riks, TL_riks, TG_riks	13	Part of locality, medium size
TX_riks, TL_riks, TG_riks	14	Part of locality, large
TX_riks, TL_riks, TG_riks	17	Other church, chapel
TX_riks, TL_riks, TG_riks	18	Parish church
TX_riks, TL_riks, TG_riks	19	Parish church within locality
TX_riks, TL_riks, TG_riks	21	Station, harbour, cableway, aerodrome with grass runways etc.
TX_riks, TL_riks, TG_riks	25	Airport
TX_riks, TL_riks, TG_riks	27	Public building, e.g. school, palace etc.
TX_riks, TL_riks, TG_riks	31	Municipality, average size
TX_riks, TL_riks, TG_riks	32	Municipality, large
TX_riks, TL_riks, TG_riks	33	Province
TX_riks, TL_riks, TG_riks	41	Nature reserve, small
TX_riks, TL_riks, TG_riks	42	Nature reserve, average size
TX_riks, TL_riks, TG_riks	43	National park, small
TX_riks, TL_riks, TG_riks	44	National park, average size
TX_riks, TL_riks, TG_riks	45	National park, large
TX_riks, TL_riks, TG_riks	47	Nature reserve, large
TX_riks, TL_riks, TG_riks	51	Hiking trail
TX_riks, TL_riks, TG_riks	52	Natural objects, small areas

Layer name	Category code	Description
TX_riks, TL_riks, TG_riks	53	Natural objects, small area
TX_riks, TL_riks, TG_riks	54	Natural objects, large area
TX_riks, TL_riks, TG_riks	55	Natural objects, regional
TX_riks, TL_riks, TG_riks	61	Informatory text, small
TX_riks, TL_riks, TG_riks	62	Informatory text, large
TX_riks, TL_riks, TG_riks	66	Informatory text, Arctic Circle
TX_riks, TL_riks, TG_riks	71	Industry, mine, lighthouse, lock, dam etc.
TX_riks, TL_riks, TG_riks	74	Ancient site or monument
TX_riks, TL_riks, TG_riks	76	Elevation figure
TX_riks, TL_riks, TG_riks	79	Road number, national and county roads
TX_riks, TL_riks, TG_riks	80	Traffic junction number
TX_riks, TL_riks, TG_riks	81	Road number, Europe road
TX_riks, TL_riks, TG_riks	82	Water, very small area
TX_riks, TL_riks, TG_riks	83	Water, small area
TX_riks, TL_riks, TG_riks	84	Water, large area
TX_riks, TL_riks, TG_riks	85	Water polygon, region area
TX_riks, TL_riks, TG_riks	86	Water polygon, large region area
TX_riks, TL_riks, TG_riks	92	Watercourse, small
TX_riks, TL_riks, TG_riks	93	Watercourse, medium size
TX_riks, TL_riks, TG_riks	94	Watercourse, large
TX_riks, TL_riks, TG_riks	98	Marshland, small
TX_riks, TL_riks, TG_riks	99	Marshland, large

Layer name	Category code	Description
TX_riks, TL_riks, TG_riks	104	Locality, municipality centre, population larger than 100,000
TX_riks, TL_riks, TG_riks	105	Locality, municipality centre, population 200 – 1,999
TX_riks, TL_riks, TG_riks	107	Locality, municipality centre, population 2,000 – 9,999
TX_riks, TL_riks, TG_riks	108	Locality, municipality centre, population 10,000 – 49,999
TX_riks, TL_riks, TG_riks	109	Locality, municipality centre, population 50,000 – 99,999
TX_riks, TL_riks, TG_riks	114	Locality, municipality centre

Table 64. Set of attributes (all text layers)

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	TEXT	Text	40	Text	40	Text string
2	KKOD	Decimal	5.0	Integer	5	Category code
3	KATEGORI	Text	50	Text	50	Description of category code
4	TJUST	Decimal	1.0	Integer	1	Text anchor point, text position (1-9) <i>Figure 3. Figure showing nine possible insertion points for text.</i> 
5	TSPARR	Decimal	3.0	Integer	3	Text spacing (percentage)
6	TRIKT	Decimal	6.2	Decimal	6.2	Text orientation (0-360 anticlockwise)
7	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

5.10 Contours

5.10.1 DATA CAPTURE

LINEAGE

The height curves have been generated (interpolated) from a square height data grid with the point distance of 50 meters.

5.10.2 MAINTENANCE FREQUENCY

Contour lines are not updated. Contour line figures are moved in cases where new objects such as roads come to and collide with existing location.

5.10.3 DATA QUALITY

COMPLETENESS

The completeness is high.

LOGICAL CONSISTENCY

There is no logical structure. Contour lines have height values.

THEMATIC ACCURACY

Thematic accuracy is not relevant for contours.

POSITIONAL ACCURACY

Contour lines show a visual height position, so positional accuracy is not relevant.

5.10.4 OH LINE LAYER WITH CONTOURS

Contains contours.

Table 65. Contents in OH line layer with contours.

Layer name	Category code	Description (see Appendix 4)
OH_riks	1001	Contour

Table 66. Set of attributes for OH line layer with contours.

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	HOJD	Decimal	5,0	Integer	5	Elevation figure

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
4	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).


5.10.5 OT TEXT WITH CONTOURS

Contains contour line figures.

Table 67. Contents in OT text with contours.

Layer name	Category code	Description (see Appendix 4)
OT_riks	1001	Contour line figure

Table 68. Set of attributes for OT text with contours.

No.	Attribute	Type shape	Length shape	Type MapInfo	Length MapInfo	Description
1	TEXT	Text	40	Text	40	Text string
2	KKOD	Decimal	5.0	Integer	5	Category code
3	KATEGORI	Text	50	Text	50	Description of category code
4	TJUST	Decimal	1.0	Integer	1	Text anchor point, text position (1-9). <i>Figure 4. Figure showing nine possible anchor points for text.</i>
						
5	TSPARR	Decimal	3.0	Integer	3	Text spacing (percentage)
6	TRIKT	Decimal	6.2	Decimal	6.2	Text orientation (0-360 anticlockwise)
7	ADAT	Text	16	Text	16	Date of the latest change of the data base. NOTE: not the latest revision of the feature (Example: 2014-10-11 12:04).

Appendix I: Recommended plotting order of layers

The following plotting order is recommended irrespective of which software is being used. For use with ArcMap it is possible to link the layers to the attached LYR file.

Table 69. Recommended plotting order of layers.

Descriptive layer name	Layer name	Geometry	Scale range in the LYR file	Turned on
Text (annotation)	TX	text	1:250,050 and larger	X
Text for contours	OT	text	1:250,050 and larger	X
Text (points)	TX	point	1:250,050 and smaller	X
Text (lines)	TL	line		
Built-up area symbols	BS	point	1:250,050 and larger	X
Road symbol	VS	point	1:250,050 and larger	X
Railway symbol	JS	point	1:250,050 and larger	X
Reserve, point	NS	point	1:250,050 and larger	X
Geodesy, point	GS	point	1:250,050 and larger	X
Road	VL	line	1:500,050 and larger	X
Road (larger)	VL	line	1:500,050 and smaller	X
Railway	JL	line	Always shown	X
Administrative boundary	AL	line	Always shown	X
Province boundary	AO	line	Always shown	X
Land line	ML	line	1:250,050 and larger	X
Coastline	MK	line	1:250,050 and larger	X
Watercourse	HL	line	1:500,050 and larger	X
Nature conservation area	NL	line	1:500,050 and larger	X
Contours	OH	line	1:500,050 and larger	X
Military firing range	QL	line	1:250,050 and larger	X

Descriptive layer name	Layer name	Geometry	Scale range in the LYR file	Turned on
Geodesy, line	GL	line	Always shown	X
Built-up area, other line	BO	line	1:500,050 and larger	X
Electricity transmission line	KL	line	1:500,050 and larger	X
Municipality	AK	polygon	Always shown	X
County	AN	polygon	Always shown	X
Nature and culture conservation	NV	polygon	1:250,050 and larger	
Animal protection area	ND	polygon	1:250,050 and larger	
Military training area	QO	polygon	1:250,050 and larger	
Military firing range	QF	polygon	1:250,050 and larger	
Built-up area, locality	MB	polygon	Always shown	X
Island	MO	polygon	1:250,050 and larger	X
Lake	MS	polygon	Always shown	X
Sea	MH	polygon	Always shown	X
Land data	MY	polygon	Always shown	X

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 70. 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

Appendix 4: Construction of codes for the hydrography

The coding in GSD-Genera Map is constructed of category codes (three-digit codes for points and four-digit codes for lines). The construction of the category codes for the hydrography is based on the codes in the system developed in collaboration with SMHI (Swedish Meteorological and Hydrological Institute). Those codes are a combination of one letter and one figure, for example A1, where:

- The letter represents the size of the dewatering area that contains the watercourse
- The number is used to graphically present the watercourses with tapered plotting style from the outlet to the source. A higher number indicates a thinner line.

Area for the dewatering area	Approximate length of the watercourses (kilometres)							
	>40					10-40	5-10	<5
>10000 km ²	A1	A2	A3	A4	A5	A6	A7	A8
3000-9999 km ²			B3	B4	B5	B6	B7	B8
1000-2999 km ²				C4	C5	C6	C7	C8
300-999 km ²					D5	D6	D7	D8
100-299 km ²					E5	E6	E7	E8
50-99 km ²						F6	F7	F8
25-49 km ²							G7	G8
1-24 km ²							H7	H8

These codes correspond to the following category codes, where X is a number between 0 and 9:

A1	911X
A2	912X
A3	913X
A4	914X
A5	915X
A6	916X
A7	917X
A8	918X
B3	923X
B4	924X
B5	925X
B6	926X

B7	927X
B8	928X
C4	934X
C5	935X
C6	936X
C7	937X
C8	938X
D5	945X
D6	946X
D7	947X
D8	948X
E5	955X

E6	956X
E7	957X
E8	958X
F6	966X
F7	967X
F8	968X
G7	977X
G8	978X
H7	987X
H8	988X

Most of these combinations are included in the description of category code (KATEGORI) in the GSD-General Map. Though, they are not included in the description of category code for water and lakes without outlet to water-course (category code 9010-9015).