PRODUCT DESCRIPTION

Topographic web map View service, overview

DOCUMENT VERSION: 1.14
CONCERNING THE INTERFACE VERSION OF THE SERVICE: 1.0.3

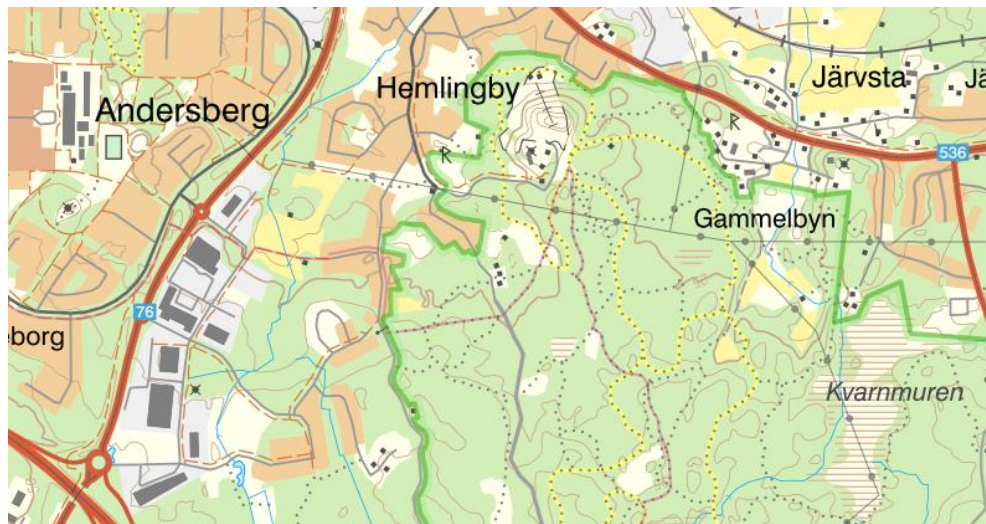*Figure 1. Section from Topographic web map View service, overview.*

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1 General description

Topographic web map View service, overview is one of the map and image viewing services provided by Lantmäteriet. The service displays information from Lantmäteriet's basic data layer with a harmonized cartography between scales.

The information in the service is adjusted to be displayed in scales smaller than 1:30 236. When zooming in to a larger scale than 1:30 236, there is no change in the content, only an enlargement of the information.

The service delivers a high-performance background map at many simultaneous requests. Instead of creating a new image for each request, the service returns small pre-generated images in at fixed zoom levels.

The service includes a layer of topographic map information that is presented prominently in colour and a layer presenting information in a toned-down grey scale.

1.1 Contents

Topographic web map View service, overview contains a selection of topographic information from several of Lantmäteriet's products. For a detailed descriptions of the content of each product, please refer to the product descriptions on Lantmäteriet's website.

- Topography 50 Download, vector
- Topography 100 Download, vector
- Topography 250 Download, vector
- Topography 1M Download, vector
- GSD Map of Sweden 1:5 million
- Adjusted VectorMap, level 0 (a public global geographic database)

Partly the content varies depending on what scale it is displayed in. Currently the different map products are created in separate production lines. Since data is retrieved from different map products inconsistences will occur, e.g., that a municipality boundary shifting in the map image between different scales. For presentation of content in different scale levels see chapter 3 and a separate document with the symbol legend.

1.1.1 TOPOGRAPHIC WEB MAP

The layer contains topographic map information such as administrative division, facilities, ancient remains, regulations, roads, railways, mountain information, electricity transmission lines, land areas, water areas, water courses, contour lines, terrain shading, place names and informative text. The information is coloured to make it clearly visible.

Figure 2. Example image in scale 1:30 236 (SWEREF 99 TM).

Figure 3 Example image in scale 1:241 890 (SWEREF 99 TM).

1.1.2 TOPOGRAPHIC WEB MAP, TONED-DOWN

The layer presents the topographic map information in a toned-down grey scale and is suitable to use as a background to other information that needs to stand out clearly.

Figure 4. Example image in scale 1:30 236 (SWEREF 99 TM).

Figure 5 Example image in scale 1:241 890 (SWEREF 99 TM).

1.2   Geographic coverage

Topographic web map View service, overview includes the entire Sweden. In the smallest scales information for Northern Europe is included.

1.3   Coordinate system

Plane:

- SWEREF 99 TM (EPSG 3006)
- Web Mercator (EPSG 3857)

Height:

- RH 2000

Each layer is available in two coordinate systems. SWEREF 99 TM is developed for Sweden and is correct in terms of length and scale. Web Mercator is a standardized projection for world maps which enables to combine the map with other data from e.g., Google, Bing or OpenStreetMap.

Web Mercator should only be used for visualizations, not for analysis, as the projection is neither correct in terms of angle nor length. The projection errors are larger in the north than the south of Sweden.

The maximum resolution in SWEREF 99 TM is 8 m/pixel and in Web Mercator it is 4,78m/pixel.

2   Quality description

Data capture, maintenance and data quality for the information displayed in the service vary depending on what product it comes from, i.e., the scale in which is displayed in (refer to tables in section 3.1). For a more complete description of quality refer to the products and product information on Lantmäteriet's web site.

- Topography 50 Download, vector
- Topography 100 Download, vector
- Topography 250 Download, vector
- Topography 1M Download, vector
  GSD Map of Sweden 1:5 million

2.1 Maintenance

2.1.1 MAINTENANCE FREQUENCY

The information in the service is updated at different intervals depending on type of information and scale level. The timeliness of the information depends not only for updates in the data source, but also on the chosen seeding strategy in the service and whether the generated map image is cached from previous requests or if the image is retrieved with new information.

A simplified description of maintenance frequency is that:

- The information in scales up to 1:60,000 is updated weekly.
- The information in scale areas above 1:60,000 is updated monthly.

3   Layout and plotting of data

Different products are the basis for information in different scale areas.

For examples on symbol legends in different scales, refer to a separate document.

3.1 Plotting in different scales

The table below describes the main principle for within which scale ranges the different products are used, in SWEREF 99 TM

Table 1. Scale area for plotting for each product.

From scale	To scale	Product, with any selection
1:30 236	1:30 236	Topography 50 Download, vector
1:30 236	1:120 945	Topography 100 Download, vector
1:60 472	1:241 890	Topography 250 Download, vector
1:60 472	1: ∞	Topography 1M Download, vector
1:483 780	1:7 774 472	Text from GSD Map of Sweden 1:5 millions
1:2 902 667	1: ∞	Adjusted VectorMap

To obtain a sharp image, the map's fixed scale levels should be followed. Zooming to a scale between the fixed levels may result in a pixelated image, and symbols and text may not be displayed at their optimal size.

The table below describes the fixed scale levels in the service and how the different products is displayed at each level, in SWEREF 99 TM.

Table 2. Scale area for plotting and resolution for each product and selection.

Level	Scale	Resolution in the image corresponds to metres on the ground	Product	Selection of content
9	1:30 236	8	Topography 50 Download, vector	All information.
8	1:60 472	-	Topography 100 Download, vector	All information except for contours.
			Topography 250 Download, vector	Contours
			-	Terrain shading
7	1:120 945	32	Topography 250 Download, vector	All information except for mountain information
			Topography 100 Download, vector	Mountain information
			Topography 1MDownload, vector	Some place names
			-	Terrain shading
6	1:241 890	64	Topography 250 Download, vector	Regulations, facilities lines, runways
			Topography 1MDownload, vector	All other information
5	1:483 780	128	Topography 1MDownload, vector	All information
			GSD Map of Sweden 5m	Text

Lev el	Scale	Resolution in the image corresponds to metres on the ground	Product	Selection of content
4	1:967 559	256	Topography 1MDown-load, vector	All information
			GSD Map of Sweden 5m	Text
3	1:1 935 118	512	Topography 1M Down-load, vector	All information
			GSD Map of Sweden 5m	Text
2	1:3 870 236	1024	Topography 1M Down-load, vector	All information
			GSD Map of Sweden 5m	Text
			Adjusted VectorMap	Information outside Sweden's borders
1	1:7 774 472	2048	Topography 1M Down-load, vector	All information
			GSD Map of Sweden 5m	Text
			Adjusted VectorMap	Information outside Sweden's borders
0	1:15 480 945	4096	Topography 1MDown-load, vector	All information
			Adjusted VectorMap	Information outside Sweden's borders

The table below describes the fixed zoom levels in the service, Web Mercator. The values are approximate and calculated assuming a resolution of 48 dpi in the service. The projection is not correct in terms of length and scale and the projection error increases towards north.

Table 3. Scale area and resolution for Web Mercator.

Level	Scale	Approximate resolution in metre/pixel
14	1:18 056	9,5
13	1:36 112	19,1
12	1:72 224	38,2
11	1:144 448	76,4
10	1:288 896	152,9
9	1:577 792	305,8
8	1:1 155 583	611,5
7	1:2 311 167	1223,0
6	1:4 622 334	2446,0
5	1:9 244 667	4892,0
4	1:18 489 335	9783,9
3	1:36 978 669	1 956 7,9
2	1:73 957 339	3 913 5,8
1	1:147 914 678	7 827 1,5
0	1:295 829 355	15 654 3,0

4   List of changes

The table indicates in which version of the product description the change was made. The date indicates from which day the change is valid from.

Table 4. Table of changes for the documents.

Version	Date	Changes from previous version
1.14	2023-04-04	Chapter 2.1.1 Maintenance frequency has been updated.

Version	Date	Changes from previous version
1.13	2023-02-01	Reference to the road Map and Mountain Map changed to the new product Topography 100 Download, vector.
		Reference to the Overview Map changed to the new product Topography 250 Download, vector.
		Reference to the Sweden Map 1:1 million changed to the new product Topography Download, vector.
		Table 5 Scale range for plotting for each product is updated.
		Table 2 Scale range for plotting for each product and selection is updated.
		Figure 1,3 and 5 is updated.
1.12	2022-09-01	References to the Terrain Map changed to the new product Topography 50 Download, vector.
		Table 2 Scale area for drawing for each product and selection is updated.
		Figures 3 and 6 are updated.
		Chapter 2.1.1 Maintenance frequency is updated.
1.11	2021-10-25	Table 5. Scale area and resolution for Web Mercator corrected.
1.10	2021-10-01	Example images updated due to changes in style.
1.9	2019-04-02	Links updated.
1.8	2019-03-27	The text about maintenance frequency in section 2.2.1 has been updated.
		Clarification of the text in chapter 3.1.
		The Artic circle has been added.
		Limestone bog, peatery and shallow soil on flat limestone has expired.

Version	Date	Changes from previous version
1.7	2018-09-14	The number of scale levels in Web Mercator has decreased from 16 to 11 in the table in section 3.1.
1.6	2018-06-29	A layer with toned-down information has been added to the service. The service is now also available in the co-ordinate system Web Mercator.
1.5	2017-09-20	The service has changed name from Topographic web map View service, CC BY to Topographic web map View service, overview since the terms of use has changed from CC BY to CC 0.
1.4	2017-09-01	Information about quality in section 2. Quality description has been clarified.
1.3	2017-01-17	An error in the list of changes corrected. Cartographic changes in the service: • Snowmobile route information has received a new style.
1.2	2016-09-01	A clarification regarding inaccuracies in the service between various scales has been added under Content.
1.1	2016-01-01	Cartographic changes in the service: • The service is complemented with mountain information in scale 1:15 000 – 1: 120 000
1.0	2015-07-01	Established version.