



Tips & tricks for the «Topic Geology»

Geology-relevant data in the federal geoportal (geo.admin.ch)

Version: 2H0J.2015

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1 Background

map.geo.admin.ch is the map viewer of the federal geoportal (in collaboration with the cantons). It provides online access to geodata in Switzerland. The «Topic Geology» (map.geologyportal.ch) groups together the datasets that are related to geology from the entire collection (where appropriate) and makes them available to both professionals and amateurs via a special catalog. The «Topic Geology» replaces the Geological Data Viewer (www.geologieviewer.ch), operated until now by swisstopo.

These *Tips & tricks for the «Topic Geology»* supplement the existing online help service help.geo.admin.ch provided by map.geo.admin.ch. They present selected datasets and functions and assist users with advice and recommendations.

2 Datasets

2.1 Overview

The «Topic Geology» currently comprises 77 datasets from various areas of geology, geophysics and geotechnics, as well as other useful layers (such as aerial imagery and base maps). Around 300 additional datasets from other fields are also available for anyone to use. New datasets are integrated into map.geo.admin.ch and the «Topic Geology» on an ongoing basis. An overview of the datasets available in the «Topic Geology» is provided in Section 5. A selection of geology-relevant datasets is presented briefly below.

2.2 Selected datasets

2.2.1 Geological vector data (GeoCover)

Contents	Compiled, vector-based geological datasets of Switzerland (scale: 1:25,000 or smaller) based primarily on the Geological Atlas of Switzerland 1:25,000 (GA25) and otherwise on the Special Geological Maps and original maps. Geometry types: point, line, polygon
Permalink to the dataset	map.geologyportal.ch

2.2.2 Geological documents

Contents	Metadata on geological documents in Switzerland. PDF versions of geological documents (borehole logs, etc.) are also added on an ongoing basis and links are provided for downloading them. NB: Around 2,000 PDF files which have already been incorporated – out of a
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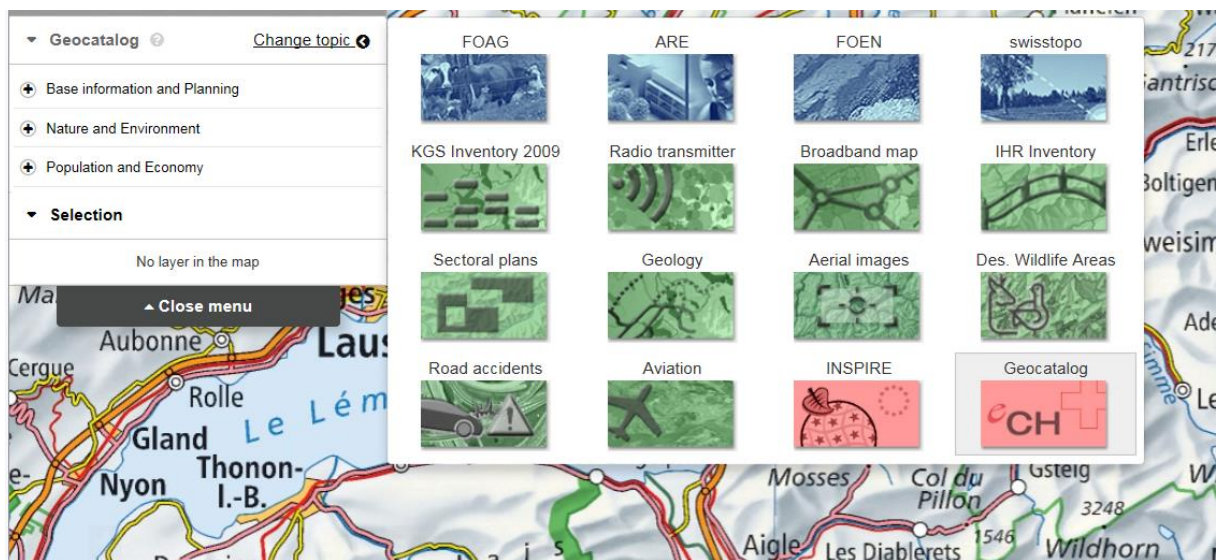
	total of over 40,000 geological documents – are currently not identifiable as PDF files on the map. However, the message «PDF document available» will be added to the system of symbols and corresponding legend by autumn 2015 to make the PDF files easier to find. Geometry types: point, line, polygon
Number of objects	Approx. 40,000 (including approx. 2,000 linked PDF files of documents)
Permalink to the dataset	http://s.geo.admin.ch/6492417d5f

2.2.3 Aerial images

Contents	swisstopo aerial images: offers the possibility to search, view and/or order approx. 300,000 aerial images dating from the 1920s to the present day. Around 195,000 images have already been digitised and can be viewed online in their full resolution. The images and scans that are not yet available will be added on an ongoing basis over the next few years. Aerial images can also be ordered from the respective canton or private company .
Number of objects for online viewing	– « Aerial Images swisstopo b/w »: black and white images (ca. 170,000 of these images are available to view online) – « Aerial Images swisstopo color »: color images (25,000 of these images are available to view online)
Permalink to the dataset	http://s.geo.admin.ch/64ba17bbb7
Permalink to the help page	http://help.geo.admin.ch/?id=40&lang=en

2.2.4 Further datasets from other topics

In addition to geology, map.geo.admin.ch offers further topics (see image below), which group together data from other fields or federal offices.



Additional basic datasets relevant to geology are in some cases only listed in the respective topic catalogue (e.g. datasets from the field of hydrology). However, these datasets can be found and displayed quickly using the search function (see Section 4). For example, the following datasets are topics of the Federal Office for the Environment (FOEN):

Dataset	Permalink
Protection zones	http://s.geo.admin.ch/64ba3d9cbc
Protection areas	http://s.geo.admin.ch/64ba3e00b9
Water protection regions	http://s.geo.admin.ch/64ba3e8663
Hydrological gauging stations	http://s.geo.admin.ch/64ba3cef24

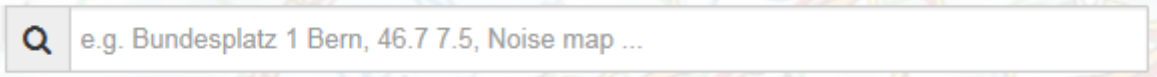
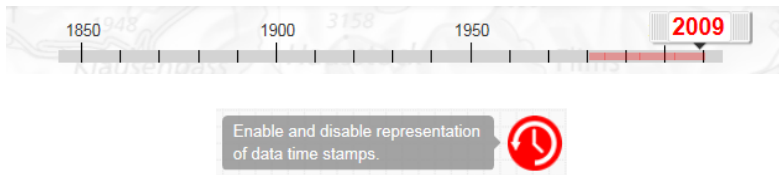
3 Obtaining data

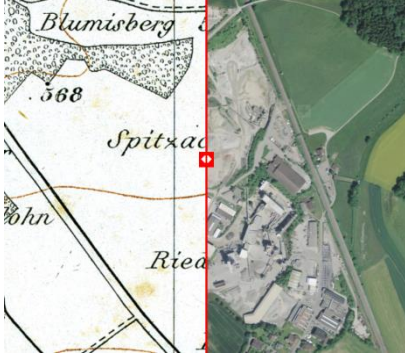
Many datasets can be obtained via one of the following channels:

- www.toposhop.ch: digital datasets and printed products available to buy, such as the Geological Atlas of Switzerland 1:25,000 and geological vector datasets (GeoCover). In addition, digital datasets are available free of charge, such as the Geological Map 1:500,000
- data.geo.admin.ch: digital datasets are available free of charge, such as the Geothermal Map 1:500,000

4 Selected functions

map.geo.admin.ch offers a wide range of functions for searching, displaying and consulting datasets. The online help service (help.geo.admin.ch) provides a description of its full functionality. Below is a selection of the functions that are currently available:

Function	Comments	Link to the help page
Search field (full text search)	All datasets can be searched and displayed using the search field (regardless of the topic selected!)	http://help.geo.admin.ch/?id=31&lang=en
		
Topics	See image in Section 2.2.4. A dataset can be listed under several topics and in several catalogs.	http://help.geo.admin.ch/?id=32&lang=en
Data creation times (time slider)	In the aerial image information system, aerial images can be filtered based on when they were produced (selected year) (see Section 2.2.3).	http://help.geo.admin.ch/?id=42&lang=en
		
Topographic profile	A topographic profile can be produced via <i>Tools > Measure</i> . NB: Currently it is not possible to adjust the vertical exaggeration.	http://help.geo.admin.ch/?id=66&lang=en
Comparison	Two different layers can be compared with each other using <i>Tools > Compare</i> .	http://help.geo.admin.ch/?id=65&lang=en

Function	Comments	Link to the help page
		
Selecting objects; object queries	Draw a rectangle on the map by pressing CTRL + left mouse button and dragging to the desired size. It can be used to select several objects at the same time. User-defined object queries can then be conducted. Object queries can also be run directly via <i>Tools > Object information</i> .	http://help.geo.admin.ch/?id=44&lang=en
Importing a WMS	WMS (Web Map Services) can be integrated into map.geo.admin.ch via <i>Tools > WMS import</i> .	http://help.geo.admin.ch/?id=62&lang=en
Importing a KML	KML files (Google) can be integrated into map.geo.admin.ch via <i>Tools > KML import</i> .	http://help.geo.admin.ch/?id=63&lang=en
Offline mode for mobile	With this mode, a 10 x 10 km extract (including the active layers) at a scale of up to 1:25,000 can be used without needing an internet connection (no tooltip).	http://help.geo.admin.ch/?id=55&lang=en

5 Topic tree

The «Topic Geology» has the following catalog (see next page):



Datasets in «Geology Topic» (23.9.2015)

Group, is used to show and hide the layers (+) / (-)

map.geologyportal.ch		
Level 1	Level 2	Level 3
Geological map series	Geological maps	
		Geology 500
		Tectonics 500
		General Geol. Map 200
		Geological Atlas GA25
		GeoCover - Vector Datasets
	Thematic maps	
		Last glacial maximum (map) 500
		Last glacial maximum (vector) 500
		Origin of rocks 500
		Classification of rocks 500
		Main lithological groups 500
	Sheet divisions	
		Division General Geol. Map 200
		Division Special Geological Maps
		Division GeoCover / GA25
Geological bases	Geological documents	
		Geological documents (>21.000km2)
		Geological documents (1000-21000km2)
		Geological documents (100-1000km2)
		Geological documents (10-100km2)
		Geological documents (0-10km2)
		Geological documents (10x10km)
		Geological documents (1x1km)
		Geological documents (lines)
		Geological documents (points)
Geophysical data	Earth's gravity field	
		Isostatic anomalies 500
		Bouguer anomalies 500
		Gravimetric Atlas 100
		Division Gravimetric Atlas 100
		Geoid in CH1903
	Earth's magnetic field	
		Aeromagnetics 500
		Aeromagnetics Plateau/Jura 500
		Aeromagnetics Aargau 1100 m 100
		Aeromagnetics Aargau 1500 m 100
		Declination 500
		Inclination 500
		Magnetic field strength 500
	Geothermal energy	
		Heat Flux 500
	Terrestrial Radiation	
Mineral resources / geotechnics	Base maps	
		Geotechnical Map 200
		Mineral resources 200
	Inventory of mineral resources	
		Cement industry 1995
		Cement industry 1965
		Brick manufactures 1995
		Brick manufactures 1965
		Brick manufactures 1907
		Quarries 1995
		Quarries 1980
		Quarries 1965
		Quarries 1915
		Industrial minerals
		Fossil fuels
		Mineralizations

map.geologyportal.ch		
Level 1	Level 2	Level 3
Subsurface geometry	Bedrock surface / unconsolid. rock	
		Thickness of unconsolidated rock
Natural Hazards	Hazard maps	
		Snow avalanches
		Landslide
		Debris flow
		Rockfall
		Overbank sedimentation
	Earthquakes	
		Historical earthquakes
		Seismic zones
		Spectral micro-zoning
		Seismic subsoil classes
	Floods	
		Areas of flooding Aquaprotect 50
		Areas of flooding Aquaprotect 100
		Areas of flooding Aquaprotect 250
		Areas of flooding Aquaprotect 500
	Potential permafrost distribution	
Hydrogeology	Hydrogeological maps	
		Hydrogeological sketch
		Groundwater Resources 500
		Groundwater Vulnerability 500
	Groundwater quantity	
		Groundwater level/spring discharge
	Groundwater quality	
		Nitrates
		Plant protection products
		Volatile Organic Compounds
Tourism, daily life, politics	Geology for all	
		Geotopes in Switzerland
		Geological Hiking Trails
		Historical building stones
	Planning for the future	
		SP Deep Geol. Repositories
Background data	Base maps	
		Journey through time - Maps
		CadastralWebMap
	Aerial / satellite images	
		Aerial images cantons
		Aerial images privates
		Aerial Images swisstopo color
		Luftbilder swisstopo infrarot
		Aerial Images swisstopo b/w
	Altitudes	
		swissALTI3D Hillshade
		Slopes over 30°