Geologische Bundesanstalt
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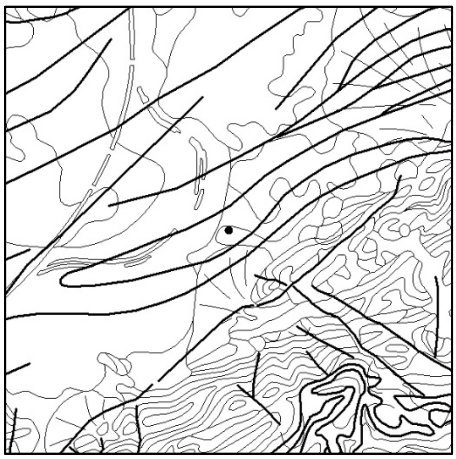
General data description of the geodata regarding the geological map of the Republic of Austria 1:200,000 (GK 200)

Vector data of the federal province series GK 200

status 16.09.2022



Inhalt

1. General description of the data packages

1.1. Short description

Geodata are data with a spatial reference to the Earth's surface and typically consist of geometric and associated technical data. The data published in the framework of the series "Geologie der Österreichischen Bundesländer" (Geology of Austria's federal provinces) are based on the printed topographic maps of the federal province series 1:200,000. The non-area-wide data material available for the federal territory encompasses the provinces Burgenland, Lower Austria (Niederösterreich), Styria (Steiermark), Upper Austria (Oberösterreich), Salzburg and Vorarlberg. The margins of the individual sheets also cover parts of adjoining provinces and neighboring countries. The published datasets reflect the respective current state of knowledge at the time of map printing and can show minimal deviations, for example due to corrections of mistakes or updates on the originals.

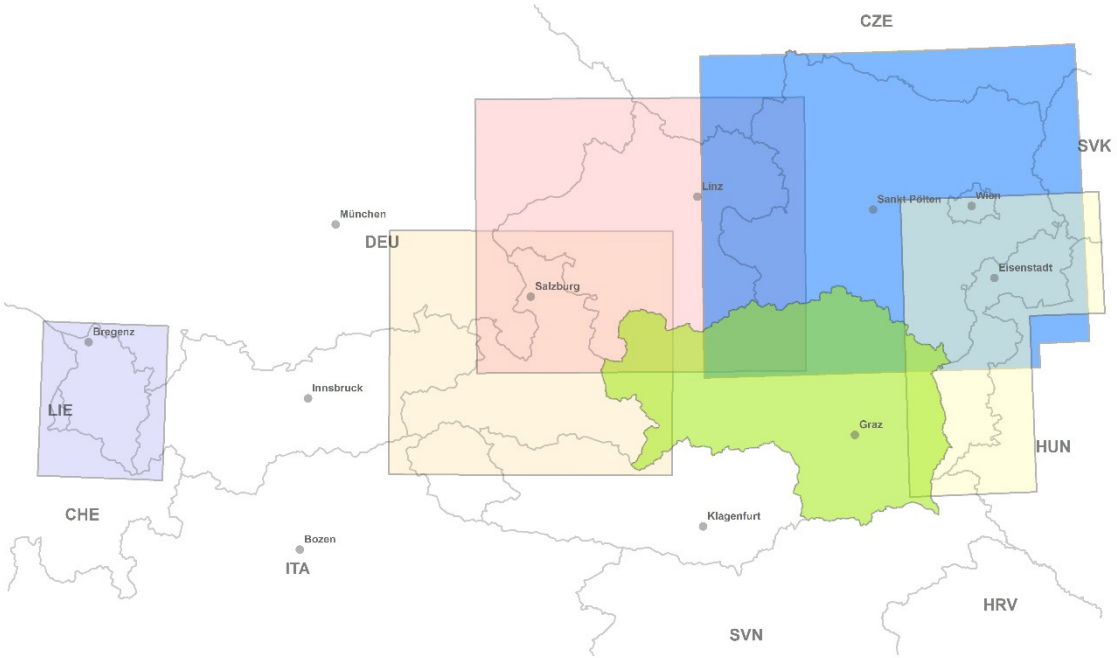


Figure 1: Database federal provinces 1:200,000

The data underlying the printed map sheets are based on a comprehensive basic data collection in the framework of the mandated geological country survey, which involves an extensive literature search, field mapping, as well as the sampling campaigns along with scientific analyses and measurements. The geological vector data provided here offer an up-to-date basis for generating further datasets, as well as for analyses by geographical information systems (GIS).

1.2. Content of the GK 200 data publications

1. Dataset — gd200_*acronym of the federal province*.gpkg
2. Map publication — gk200_*acronym of the federal province*.png
3. Data description (German) — Datenbeschreibung_gd200.pdf
4. Data description (English) — DataDescription_gd200.pdf

The Geopackages (GPKG) contain no symbolization (styles and layer files) for visualization and graphical representation of the geometries. Data on the auxiliary maps and overview maps in the

printed geological map are also not included. The data are not INSPIRE conform because they are archived research datasets.

Materials related to Austria map 1:200,000 of the Federal Office of Metrology and Surveying (BEV; www.bev.gv.at) were used as the topographical basis for the geological map representation. These data are subject to the copyright regulations of the BEV and are not contained in this data publication.

1.3. Terms of use

The datasets represent scientific data and provide a generalized portrayal of the near-surface geology. No legal claims can be derived from this material. Special, detailed investigations and issues require task-based data acquisitions. The data packages, including the descriptions, are licensed under the Creative Commons License "Namensnennung 4.0 International (CC BY 4.0)" (https://creativecommons.org/licenses/by/4.0/deed.de).

1.4. Reference system

Projection:	EPSG:31287 Lambert conical projection (reference circle of latitude 46° and 49° north latitude).
Date:	MGI (Institute of Military Geography)
Reference ellipsoid:	Bessel (1841)
Altitudes:	Mean water layer of the Adriatic Sea at Trieste, Italy (Epoche 1875)

1.5. Scale

1:200,000

1.6. Resource language

German, English

1.7. Temporal framework

State of the geology of the federal province series at the time of publication from 1984-2007. Individual rectifications of printing errors: 2009, 2011, 2014.

1.8. Production date of the described data packages

16.09.2022

1.9. Technical treatment of the data

Werner Stöckl (GBA)

1.10. Author of the datasets

Geological Survey of Austria
If reference is made to the contents of the published map sheets, then these must be cited (see Reference lists).

1.11. Quality and validity

Degree of completeness
The database is not available area-wide for the entire federal territory.

Digitization method
Synthesis of publications and maps; generalization of large-scale maps (1:25,000, 1:50,000 and 1:75,000); semi-automated on-screen digitizing of scanned manuscript maps.

Source for geology
1. Geological map of Burgenland 1:200,000, GBA (1999)
2. Geological map of Lower Austria (Niederösterreich) 1:200,000, GBA (2002)
3. Geological map of Salzburg 1:200,000, GBA (2005)
4. Geological map of Styria (Steiermark) 1:200,000, GBA (1984)
5. Geological map of Upper Austria (Oberösterreich) 1:200,000, GBA (2006)
6. Geological map of Vorarlberg 1:100,000, GBA (2007)

Harmonization
The datasets represent individual efforts and are not harmonized across all federal provinces. Accordingly, the geological surfaces, their borders, lines, points and tectonic line elements refer exclusively to the area of a specific province. The sheet margins may exhibit inconsistencies regarding the geometries (sheet margin faults) and the polygon coding. The data content reflects the state of research at the time the printed map of a particular investigated region was published.

Accuracy
The vector data are tailored to a scale of 1:200,000 and compiled based on the digital official topography ÖK200. The printed map for the Vorarlberg sheet was published at a scale of 1:100,000 for better readability, based on a BEV (Federal Office of Metrology and Surveying) topography ÖK100V.

1.12. Suggested reference style for data packages

Geologische Bundesanstalt (2022): Geodaten – Bundesland *name of the federal province* (1:200.000). Tethys RDR, Geologische Bundesanstalt, Wien (https://doi.org/10.24341/tethys.*ID*).

Example:
Geologische Bundesanstalt (2021): Geodaten – Bundesland Oberösterreich (1:200.000). Tethys RDR, Geologische Bundesanstalt, Wien (https://doi.org/10.24341/tethys.185).

1.13. Topographic material used

The underlying materials used are custom-made, and partially or entirely based on the Austrian federal province map (Österreichischen Bundesländerkarte) 1:200,000 (ÖK200-BLK) of the Federal Office of Metrology and Surveying (www.bev.gv.at). Due to the switch to a scale of 1:250,000 and the resulting new sheet layout, the 1:200,000 scale federal province map of 2011 was replaced by the 1:250,000 scale Austria map. In the case of subsequent digitization of older map sheets (e.g. Styria), the status of the topography may deviate from that of the publication date of the maps (mostly topography of younger origin).

Federal province	Year	EPSG
Burgenland	1999	31259
Lower Austria	2002	31259
Salzburg	2004	31258
Styria	1984	31259
Upper Austria	2006	31258
Vorarlberg	1996	31257

Table 1: Topographical basis for map sheets ÖK200-BMN (BEV).

Note:
As of the year 2000, the BEV has converted the national cartography from the BMN system of the Austrian Land Survey Office (Österreichischen Landesvermessung) (MGI, Bessel ellipsoid, Gauß-Krüger coordinates) to the globally standardized 'Universal Transversal Mercator System' (UTM). The conversion between the coordinate systems involves a data transformation (MGI → WGS84 = World Geodetic System 1984 or, in the case of Europe, with MGI → ETRS89).

2. Detailed description of the datasets

2.1. Data format

GPKG (Geopackage; https://www.geopackage.org/)

2.2. Data structure using Upper Austria as an example

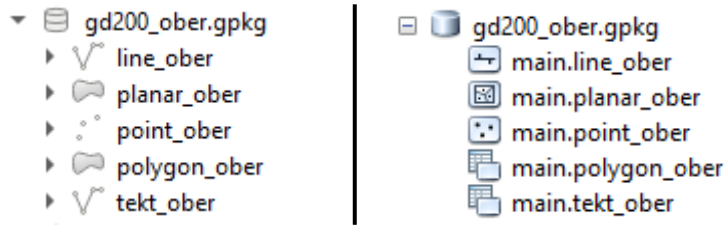


Figure 2: View of the download-ready datasets in the application QGIS (left) and in the application ArcGIS (right)

2.3. Supplied layers and their attributes

Attribut	**Typ**	**Beschreibung**
OBJECTID	Object_ID	Object ID
SHAPE	Geometry	Polygon, polyline, point
BESCHRIFT	Text	Text labels regarding deep boreholes
LEG_ID	Text	General key in the KM model, not the number in the legend of the printed map.
LEGTEXT	Text	Object description (legend text), German
LEGTEXT_EN	Text	Object description (legend text), English
LITHOLOGIE	Text	Lithology, German
LITHOLOGIE_EN	Text	Lithology, English
CHRONOSTR	Text	Chronostratigraphy, German
CHRONOSTR_EN	Text	Chronostratigraphy, English
UEBER1	Text	Heading text in the map legend, Hierarchy layer 1, German
UEBER1 _EN	Text	Heading text in the map legend, Hierarchy layer 1, English
UEBER2	Text	Heading text in the map legend, Hierarchy layer 2, German
UEBER2_EN	Text	Heading text in the map legend, Hierarchy layer 2, English
UEBER3	Text	Heading text in the map legend, Hierarchy layer 3, German
UEBER3_EN	Text	Heading text in the map legend, Hierarchy layer 3, English
UEBER4	Text	Heading text in the map legend, Hierarchy layer 4, German
UEBER4_EN	Text	Heading text in the map legend, Hierarchy layer 4, English
UEBER5	Text	Heading text in the map legend, Hierarchy layer 5, German

UEBER5_EN	Text	Heading text in the map legend, Hierarchy layer 5, English
KLAMM1	Text	Heading text in the map legend, Layer 1, German
KLAMM1_EN	Text	Label of the brackets in the map legend, Layer 1, English
KLAMM2	Text	Label of the brackets in the map legend, Layer 2, German
KLAMM2_EN	Text	Label of the brackets in the map legend, Layer 2, English
KLAMM3	Text	Label of the brackets in the map legend, Layer 3, German
KLAMM3_EN	Text	Label of the brackets in the map legend, Layer 3, English
L_SORT	Text	Alphanumerical sorting key

Table 2: Attributes of the files contained in the Geopackages.

line_*BUNDESLAND*
All lines (e.g. Quaternary phenomena, geomorphological and lithogenetic units) without tectonic and topographical lines (BEV data not included). Line objects are not represented in all data publications (Austrian federal provinces).

planar_*BUNDESLAND*
The planar layer contains area-wide polygons with geological information as well as surface waters (major lakes, dams, etc.) and glaciers.

point_*BUNDESLAND*
All point objects on various topics such as geology, raw materials geology (quarries), boreholes (deep boreholes) and special points without structural symbols and topographical points. Point objects are not represented in all data publications (Austrian federal provinces) and play a subordinate role.

polygon_*BUNDESLAND*
This layer contains planar geological objects such as ridges of moraines, drumlins and saggings that can partially or entirely cover other polygons (over-signature in printed geological maps). Polygon objects are not represented in all data publications (Austrian federal provinces).

tekt_*BUNDESLAND*
Tectonic lines (fault, strike slip fault, nappe boundary, subnappe and slice boundary).

3. Reference lists

3.1. Published map sheets

References for published map sheets of the geological map of the Republic of Austria 1:200,000 whose vector datasets are published in Tethys RDR.

Name	Reference list
Burgenland	Pascher, G.; Herrmann, P.; Mandl, G.; Matura, A.; Nowotny, A.; Pahr, A. & Schnabel, W. (1999): Geologische Karte des Burgenlandes 1:200.000. - 1 Bl, Farbendruck, Verlag der Geologischen Bundesanstalt, Wien. (Freytag-Berndt & Artaria)
Lower Austria	Schnabel, W. (2002): Geologische Karte von Niederösterreich 1:200.000. - 2 Teile + Legendentafel, Computerplot (Farbe), Verlag der Geologischen Bundesanstalt, Wien.
Styria	Flügel, H. & Neubauer, F. (1984): Geologische Karte der Steiermark 1:200.000. - 1 Bl, Farbendruck, Verlag der Geologischen Bundesanstalt, Wien. (Bundesamt für Eich- und Vermessungswesen)
Upper Austria	Krenmayr, H.; Schnabel, W.; Reitner, J.; van Husen, D.; Finger, F.; Linner, M.; Roetzel, R.; Rupp, C.; Bryda, G.; Mandl, G.; Nowotny, A.; Pestal, G. & Schuster, R. (2006): Geologische

	Karte von Oberösterreich 1:200.000. - 1 Bl+ Beikarte, Farbendruck, Verlag der Geologischen Bundesanstalt, Wien.
Salzburg	Braunstingl, R.; Pestal, G.; Hejl, E.; Egger, H.; van Husen, D.; Linner, M.; Mandl, G.; Moser, M.; Reitner, J.; Rupp, C. & Schuster, R. (2005): Geologische Karte von Salzburg 1:200.000. - 1 Bl, Farbendruck, Verlag der Geologischen Bundesanstalt, Wien. (Freytag-Berndt & Artaria)
Vorarlberg	Oberhauser, R.; Bertle, H. & Bertle, R. (2007): Geologische Karte von Vorarlberg 1:100 000. - 1 Bl, Farbendruck, Verlag der Geologischen Bundesanstalt, Wien. (Gerin)

3.2. Explanatory notes on the map sheets

References for published explanatory notes on the map sheets of the geological map of the Republic of Austria 1:200,000 whose vector datasets are published in Tethys RDR.

Name	Reference list for comments on the geological maps
Burgenland	Schönlaub, H.; Heinrich, M.; Herrmann, P.; Hofmann, T.; Koller, F.; Kollmann, W.; Lenhardt, W.; Pahr, A.; Piller, W.; Schermann, O.; Schönlaub, H.; Belocky, R.; Seiberl, W.; Walach, G.; Zorn, I.; Draxler, I.; Fritz, I.; Harzhauser, M.; Mandic, O.; Pistotnik, J. & Sauerzopf, F. (2000): Burgenland: Erläuterungen zur Geologischen Karte des Burgenlandes 1:200.000. - 130, 96 Abb., 10 Tab., 4 Taf. + Geologische Karte des Burgenlandes 1:200.000, Geologische Bundesanstalt, Wien.
Lower Austria	Schnabel, W.; Krenmayr, H.; Mandl, G.; Nowotny, A.; Roetzel, R.; Scharbert, S. & Schnabel, W. (2002): Geologische Karte von Niederösterreich 1:200.000: Legende und kurze Erläuterung. - 47, Ill., 2 Kt., Geologische Bundesanstalt, Wien.
Styria	Flügel, H. & Neubauer, F. (1984): Steiermark: Erläuterungen zur Geologischen Karte der Steiermark 1:200.000. - 127, 28 Abb., 5 Tab., 1 Kt. + Geologische Karte der Steiermark 1:200.000, Geologische Bundesanstalt, Wien.
Upper Austria	Rupp, C.; Linner, M.; Mandl, G.; Atzenhofer, B.; Berning, B.; Bieber, G.; Draxler, I.; Egger, H.; Finger, F.; Heinrich, M.; Hofmann, T.; van Husen, D.; Kapl, S.; Kolmer, C.; Lenhardt, W.; Letouze-Zezula, G.; Linner, M.; Mandl, G.; Moshammer, B.; Motschka, K.; Pestal, G.; Pfleiderer, S.; Reiter, E.; Römer, A.; Rupp, C.; Schedl, A.; Schuster, R.; Slapansky, P.; Weidinger, J. & Wimmer-Frey, I. (2011): Geologische Karte von Oberösterreich 1:200 000: Erläuterungen. - 255, 31 Abb., 4 Tab., 9 Farbtaf., Geologische Bundesanstalt, Wien.
Salzburg	Pestal, G.; Hejl, E.; Braunstingl, R.; Schuster, R.; Braunstingl, R.; Draxler, I.; Egger, H.; Heinrich, M.; Hejl, E.; Lenhardt, W.; Letouze-Zezula, G.; Linner, M.; Mandl, G.; Moshammer, B.; Pestal, G.; Rupp, C.; Schedl, A.; Schuster, R.; van Husen, D.; Wimmer-Frey, I. & Valentin, G. (2009): Geologische Karte von Salzburg 1:200 000: Erläuterungen. - 162, 28 Abb., 11 Farbtaf., Geologische Bundesanstalt, Wien.
Vorarlberg	Bertle, H.; Bertle, R.; Colins de Tarsienne, E.; Draxler, I.; Friebe, J.; Furrer, H.; De Graaff, L.; Heinrich, M.; Herzog, U.; De Jong, M.; Lenhardt, W.; Oberhauser, R.; Ortner, H.; Schedl, A.; Seijmonsbergen, H.; Starck, P. & Friebe, J. (2007): Vorarlberg. - 174, 167 Abb., 3 Tab., 3 Beil., Geologische Bundesanstalt, Wien.