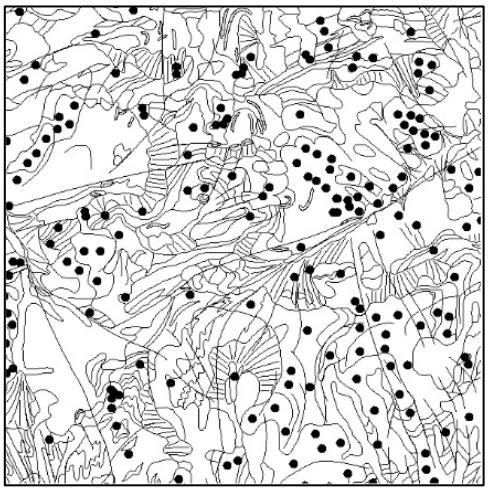
GeoSphere Austria

General data description of the geodata regarding GEOFAST 1:50,000

Vector data of the GEOFAST series

Version 5; stand 14-02-2024



Contents

1. General description of the data packages

1.1. Short description

The acronym GEOFAST is derived from the original project title: Erstellung einer flächendeckenden digitalen **Geo**logischen Spezialkarte Österreichs au**f a**ktuellem Forschungs**st**and 1:50.000 (translation: "Production of a comprehensive, special digital geological map of Austria at a scale of 1:50,000 based on the current state of research"). The term "special map" refers to the relatively detailed scale of 1:50,000, which is considered to be a "special map scale" as opposed to the overview scales.

The subtitle for the GEOFAST maps that served as the basis for the data publications was (until the end of 2007) "Provisorische Geologische Karte der Republik Österreich 1:50.000" (translation: "Provisional geological map of the Republic of Austria 1:50,000"). The GEOFAST project was based exclusively on already available map material. Accordingly, that subtitle as well as the above wording "based on the current state of research" is somewhat misleading from today's point of view. These considerations prompted a modification of the subtitle used on the GEOFAST maps to "Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000" (translation: "Compilation of selected archive materials of the GeoSphere Austria 1:50,000").

The data basis for GEOFAST maps includes already available archive material and manuscript maps of the GeoSphere Austria (former Geological Survey of Austria) that were specifically selected for this purpose, along with published (mostly older) maps.
Almost all of materials used for the compilation are available in the library or the scientific archives of the GeoSphere Austria. The project team, in collaboration with the GeoSphere Austria´s respective regional experts, then undertook a scientifically founded selection of the map contents. These were subsequently transferred onto a modern topographic map basis (Austrian map 1:50,000 of the Federal Office of Metrology and Surveying (Bundesamtes für Eich- und Vermessungswesen, BEV).

Discontinuities between the maps of various authors are deliberately retained and are potentially visible as steps in the contour lines. Geometric harmonization is undertaken only when the respective researcher feels this is justified based on scientific considerations. In transferring the geological data of maps with an outdated topography and larger scales onto the current topographic base, comprehensive information is given priority over potential positional inaccuracies.

Depending on their availability, the more recent GEOFAST compilations incorporating digital terrain models gained by Airborne Laser Scanning (ALS data) are entered and used in delimiting the geological units. This often helped improve positional accuracy.

The legends are also prepared in collaboration with the regional experts, taking current stratigraphic and tectonic classification concepts into consideration. In the data set, this information is contained in the column LEG_TXT. The possibilities for a contextual-semantic harmonization of the legend items of the various maps are often limited. This can yield extensive legends with partially overlapping legend items.

The process encompasses all those map sheets (pertaining to the BMN map sheet) for which no update based on field-geological surveys is expected in the foreseeable future. The GEOFAST compilations are envisioned as a supplement, not as a replacement for maps newly produced based on field surveys and scientifically revised in the framework of the mapping program GK 50-BMN / GK 25-UTM.

1.2. Content of the GEOFAST data publications

1.	Data set	gf_*BLATTNR*.gpkg
2.	Map publication	gf_*BLATTNR*.pdf
3.	Data description (German)	Datenbeschreibung_GEOFAST.pdf
4.	Data description (English)	DataDescription_GEOFAST.pdf

The Geopackages (GPKG) contain no symbolizations (styles and layerfiles) for the visualization and graphical representation of the geometry elements. Equally, with the exception of data on the materials used ("distribution maps"), no data are included on the available auxiliary maps used in the PDF of the map publication. The data published in Tethys RDR are not INSPIRE conform because they are regarded as archived research datasets.

The data of the Austrian map 1:50,000 BMN of the Federal Office of Metrology and Surveying (BEV; www.bev.gv.at) were used as the topographic basis for the geological map presentations. These data are subject to the copyright regulations of the BEV and are not part of this data publication.

1.3. Integration of the compilation from Joanneum Research

Within the federal state borders of Styria, geological map data were already compiled in a geometrically harmonized manner by Joanneum Research in 1995-1998 based topographically on ÖK 50. The resulting data set was incorporated into the Geological Survey's GEOFAST GIS databank system. In the meantime, however, most of the Styrian sheets have been newly compiled by the GEOFAST team and are now available as data publications.

1.4. Terms of use

The data sets are scientific data and represent a generalized image 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 description, are licensed under the Creative Commons License "Attribution 4.0 International (CC BY 4.0)".
(https://creativecommons.org/licenses/by/4.0/deed.en).

1.5. Information on the use of GEOFAST data

A short summary of the GEOFAST-project definition was integrated into the layout of the GEOFAST map publication in the form of a so-called "Information for users"; this is also valid for the associated data publications:

GEOFAST maps and the underlying data are produced largely from the GeoSphere Austria´s archive materials. Published (mostly older) maps can also provide supplementary input into the compilation. No verification with additional field surveys is done. Discontinuities between the maps of various authors are deliberately retained and are visible as steps in the contour lines. Geological information is transferred onto the current stratigraphic and tectonic models. Positional inaccuracies reflect the transferal of geological data from maps with an outdated topography and larger scales onto the more recent topographic material.

1.6. Reference system

EPSG 31287 (MGI / Austria Lambert)
Lambert conical projection (reference circle of latitude 46° und 49° north latitude)
Date: MGI (Institute of Military Geography)
Reference ellipsoid: Bessel (1841)
False Easting: 400,000 m
False Northing: 400,000 m
Altitudes: mean water layer of the Adriatic Sea at Trieste, Italy (Epoche 1875).

1.7. Scale

1:50,000

1.8. Production date of data packages

September 2021, December 2021, January 2022, May 2023

1.9. Technical treatment of the data

Isabella Bayer (GeoSphere Austria) and Mathias Steinbichler (GeoSphere Austria)

1.10. Author of the datasets

GeoSphere Austria

If reference is made to the contents of the published map sheets, then these must be cited (for suggested reference style see: Reference lists; Chapter 3.1).

1.11. Quality and validity

Data source:
Excerpt from the map series published until December 2022: "GEOFAST 1:50,000 - Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt " (translation: „Compilation of selected archive materials of the Geological Survey“). Excerpt from the map series published since January 2023: "GEOFAST 1:50,000 - Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria " (translation: „Compilation of selected archive materials of the GeoSphere Austria“). The archive materials consulted for the respective map sheets are available in the GPKG file as full references (see Chapter 3.2.).

Degree of completeness:
State of the geology: time point of producing the layout for the plot of the individual sheet.

Harmonization:
Contextual-semantic and geometric harmonizations were conducted wherever scientifically justified. Discontinuities (“sheet margin faults“) between the maps of various authors are deliberately retained and may be visible as steps in the contour lines. The possibilities for a contextual-semantic harmonization of the legend items of the various maps are often limited. This can yield extensive

legends with partially overlapping legend items. In the data set this information is contained in column LEG_TXT.

Accuracy:
GEOFAST is a compilation of already available data. The materials used are documented in the data set. Some of the vector data in GEOFAST are compiled with an accuracy greater than 1:50,000. In particular the sheets for the federal state of Tyrol were produced – in synergy with a project to support management of the protection forest – at a higher resolution, namely 1:25,000. Depending on their availability, digital terrain models derived from Airborne Laser Scanning data were incorporated when entering and delineating the geological units in the more recent GEOFAST maps.

Workflow GEOFAST:
- Collection and review of the data basis
- Compilation of the selected data in GIS
- Editorial check
- Integration of the data in the central GEOFAST database
- Layout- and plot preparation
- Integration in the GEOFAST Imageservice
- Data export (extraction of vector data) and data publication

1.12. Suggested citation style for the data packages:

GeoSphere Austria (*YEAR*): Geodata to GEOFAST 1:50.000, sheet *SHEET NUMBER* - *SHEET NAME*. Tethys RDR, Geosphere Austria, Vienna (https://doi.org/10.24341/tethys.*ID*).

Example:
GeoSphere Austria (2023): Geodata to GEOFAST 1:50.000, sheet 4 - Gratzen. Tethys RDR, GeoSphere Austria, Wien (https://doi.org /10.24341/tethys/213).

1.13. Topographic material used

The Austrian map 1:50,000 (ÖK 50) of the Federal Office of Metrology and Surveying (Bundesamt für Eich- und Vermessungswesen, BEV) was used as the topographic basis for the GEOFAST maps, in the version valid at the time of the respective GEOFAST map preparation.

2. Detailed description of the datasets

2.1. Data format

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

2.2. General data structure of GEOFAST

The data structure outlined below encompasses all the layers potentially present in the GEOFAST data sets.

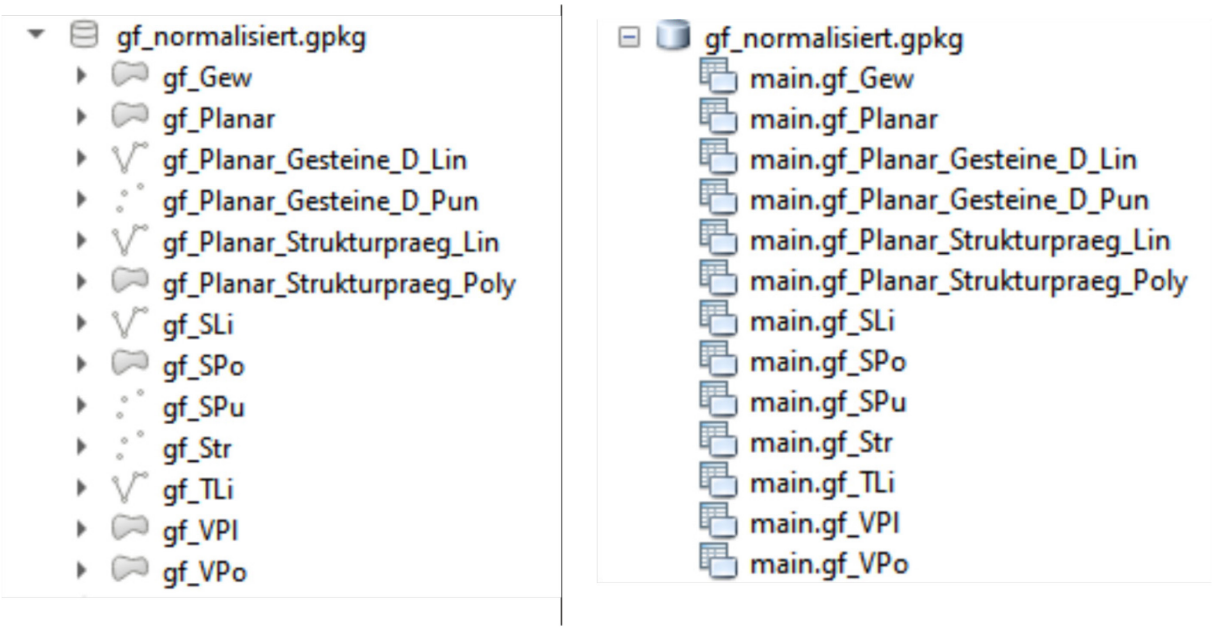


Figure 1: View of the datasets available for download in the application QGIS (left) and in the application ArcGIS (right) in the normalized view with all possible layers.

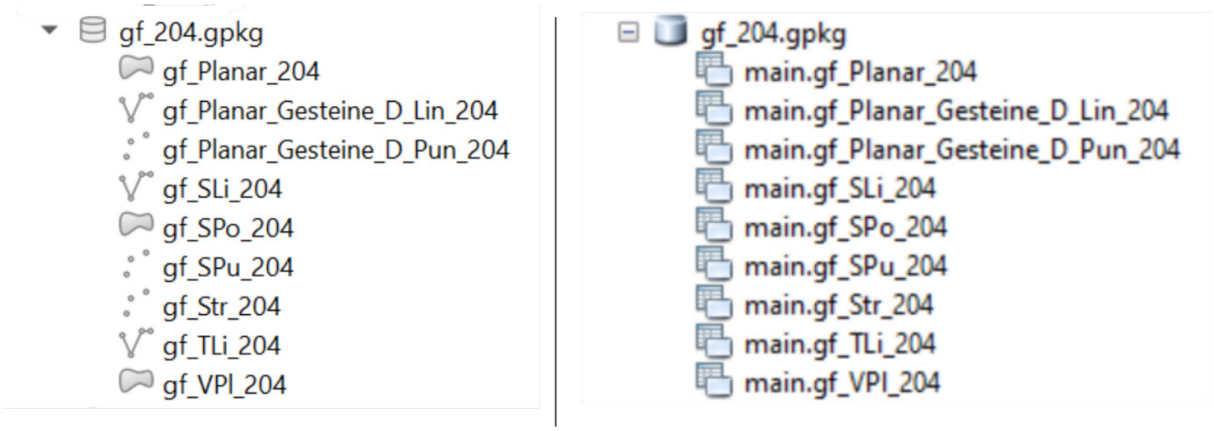


Figure 2: View of the data sets available for download in the application QGIS (left) and in the application ArcGIS (right) with the actually available layers using sheet 204 Völkermarkt as an example.

2.3. Supplied layers and their attributes

A maximum of 13 layers are supplied, all of which have the same structure (Figure 1) in all the following GEOFAST data publications; they differ solely in the respective sheet number alongside their name. Depending on the actual data availability for the respective GEOFAST sheet, fewer layers may be supplied (Figure 2).

gf_Gew_*BLATTNR*
The layer gf_Gew contains polygons of surface waters (larger lakes, reservoirs, etc.) and glaciers. Due to the various time points at which the GEOFAST sheets were prepared, surface waterbodies can alternatively be represented in layer gf_Planar.

gf_Planar_*BLATTNR*
The layer gf_Planar contains area-wide polygons with geological information as well as surface waters (larger lakes, reservoirs, etc.) and glaciers. Due to the various time points at which the GEOFAST sheets were prepared, they may also contain information relating to structural overprint. Moreover, surface waters can alternatively also be represented in layer gf_Gew, with supplementary geological or lithological information in layer gf_SPo.

gf_Planar_Gesteine_D_Lin_*BLATTNR*
The layer gf_Planar_Gesteine_D_Lin contains lines with geological information. Due to the various time points at which the GEOFAST sheets were prepared, information relating to structural overprint can also be represented; geological line informationen can alternatively be contained in layer gf_SLi.

gf_Planar_Gesteine_D_Pun_*BLATTNR*
The layer gf_Planar_Gesteine_D_Pun contains points with geological information. Due to the various times at which the GEOFAST sheets were prepared, information relating to structural overprint can also be represented; geological point information can alternatively be contained in layer gf_SPu.

gf_Planar_Strukturpraeg_Lin_*BLATTNR*
The layer gf_Planar_Strukturpraeg_Lin contains lines with information on structural overprint of underlying geological information (e.g. mylonite and cataclasite). Due to the various time points at which the GEOFAST sheets were prepared, information relating to structural overprint can alternatively be represented in the layers gf_Planar_Gesteine_D_Lin, gf_Planar_Gesteine_D_Pun or gf_Planar.

gf_Planar_Strukturpraeg_Poly_*BLATTNR*
The layer gf_Planar_Strukturpraeg_Poly contains polygons with information on structural overprint of underlying geological information (e.g. mylonite and cataclasite). Due to the various time points at which the GEOFAST sheets were prepared, information on structural overprint can alternatively be represented in the layers gf_Planar_Gesteine_D_Lin, gf_Planar_Gesteine_D_Pun, gf_Planar or gf_SPo.

gf_SLi_*BLATTNR*
The layer gf_SLi contains lines with information on various topics such as Quaternary geology or geomorphology (e.g. fracture lines, ridges of moraines). This layer specifically excludes: tectonic lines (located in layer gf_TLi), geological/lithological lines (located in layer gf_Planar_Gesteine_D_Lin), lines indicating structural overprint (located in layer gf_Planar_Strukturpraeg_Lin) as well as topographic

lines (BEV data are not included). Due to the various time points at which the GEOFAST sheets were prepared, geological line information may be present.

gf_SPo_*BLATTNR*
The layer gf_SPo contains polygons with information on various topics such as area-wide geological information that can partly or completely overlap other polygons („over-signature“ in printed geological maps). This layer mostly encompasses objects pertaining to Quaternary geology and geomorphology (e.g. sliding slopes, strath terraces). Due to the various time points at which the GEOFAST sheets were prepared, geological/lithological as well as information relating to structural overprint can also be present.

gf_SPu_*BLATTNR*
The layer gf_SPu contains points with information on various topics such as Quaternary geology (e.g. patchy cover of till, erratic block) or geomorphology (e.g. sliding slopes, drumlin). It does not contain structural symbols (these are presented in layer gf_Str) or topographic points (BEV data are not included). Individual points can be rotated clockwise geographically (N = 0°) using the field “ROTATION”. Due to the different orientation of the markers used in the map displays, the start angle may not always be 0°. The data should be compared with the map display to obtain oriented information on the point objects. Due to the various time points at which the GEOFAST sheets were prepared, geological point information can also be present.

gf_Str_*BLATTNR*
The layer gf_Str contains points with structural symbols and structural data (e.g. foliation, bedding, fold axes, lineation). The fields “DIP_DIR” (direction of dip) and “DIP” (dip value) contain measurements in degrees. If the field “DIP” does not contain any value then the dip values are entered as angular intervals in the fields “CLASS_MIN” and “CLASS_MAX”. Structural points can be rotated clockwise geographically (N = 0°) for the representation using the field “DIP_DIR”.

gf_TLi_*BLATTNR*
The layer gf_TLi contains lines with tectonic information (e.g. faults, strike-slip faults, normal faults, nappe boundaries).

gf_VPl_*BLATTNR*
The layer gf_VPl contains polygons with information on the utilized materials and the associated full references used in compiling the GEOFAST sheet.

gf_VPo_*BLATTNR*
The layer gf_VPo contains polygons with additional information on the utilized materials and the associated full references used in compiling the GEOFAST sheet – overlying the layer gf_VPl.

The layers contain the relevant attributes for the respective topic as a selection from the following table:

Attribute	Type	Description
OBJECTID	Object_ID	Object ID
SHAPE	Geometry	Polygon, Polyline, Point
ROTATION	Text	Rotation angle of point objects in degrees
DIP_DIR	Short Integer	Dip direction of the structure object in degrees
DIP	Short Integer	Dip of the structure object in degrees
CLASS_MIN	Short Integer	Lower limit of the classification of the dip (minimum) in degrees
CLASS_MAX	Short Integer	Upper limit of the classification of the dip (maximum) in degrees
LEG_ID	Text	Legends ID
LEG_TEXT	Text	Object description (legend text)
HEADING1	Text	Heading text in the map legend, hierarchy level 1
HEADING2	Text	Heading text in the map legend, hierarchy level 2
HEADING3	Text	Heading text in the map legend, hierarchy level 3
HEADING4	Text	Heading text in the map legend, hierarchy level 4
L_SORT	Text	Alphanumeric sort key for the map legend
STATUS	Text	Information about the value of the data origin
OEK_NR	Short Integer	Sheet number in the BMN Sheet section of the BEV
CITATION	Text	Full citation to documents used
SHORT_CITATION	Text	Short citation as used in the overview of the incorporated maps on the GEOFAST maps.

Table 1: Attribute table of the files available in Geopackages.

3. Reference lists

3.1. Published GEOFAST map sheets

The following list contains the references of those published GEOFAST sheets 1:50,000 whose vector datasets are published in Tethys RDR. The references of certain older GEOFAST sheets that have since been replaced by new map sheets from the map series Geological map of the Republic of Austria 1:50,000 are therefore not included in this list.

GEOFAST maps are offered as "print on demand" through the publishing house of the GeoSphere Austria. High-resolution pdf files of GEOFAST maps are available free of charge through the online catalog of the library. Since 2011 the GEOFAST sheets have also been made available in georeferenced form in a modern image service through the GeoSphere Austria website. This is now supplemented by the data publication presented here.

SNo.	Sheet name	Reference list
1	Neuhaus	KREUSS, O. & LINNER, M. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 1 Neuhaus: Stand 2022, Wien.
2	Kuschwarda	MOSER, M. (2017): GEOFAST –- Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 2 Kuschwarda: Stand 2017, Wien.
3	Wallern	MOSER, M. (2017): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 3 Wallern: Stand 2017, Wien.
4	Gratzen	KREUSS, O. & LINNER, M. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 4 Gratzen: Stand 2022, Wien.
5	Gmünd	KREUSS, O. & LINNER, M. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 5 Gmünd: Stand 2023, Wien.
10	Wildendürnbach	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 10 Wildendürnbach: Stand 2018, Wien.
11	Drasenhofen	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 11 Drasenhofen: Stand 2018, Wien.
13	Engelhartszell	MOSER, M. & LINNER, M. (2017): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 13 Engelhartszell: Stand 2016, Wien.
14	Rohrbach in Oberösterreich	MOSER, M. & LINNER, M. (2017): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 14 Rohrbach i. OÖ: Stand 2016, Wien.
15	Bad Leonfelden	MOSER, M. & LINNER, M. (2018): GEOFAST –- Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 15 Bad Leonfelden: Stand 2017, Wien.
21	Horn	KREUSS, O. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 21 Horn: Stand 2023, Wien.
24	Mistelbach	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 24 Mistelbach: Stand 2018, Wien.
25	Poysdorf	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 25 Poysdorf: Stand 2018, Wien.
26	Hohenau an der March	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 26 Hohenau an der March: Stand 2018, Wien.
27	Braunau am Inn	MOSER, M. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 27 Braunau am Inn: Stand 2017, Wien.
28	Altheim	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 28 Altheim: Stand 2019, Wien.
29	Schärding	MOSER, M. & LINNER, M. (2021): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 29 Schärding: Stand 2020, Wien.

30	Neumarkt im Hausruckkreis	MOSER, M. & LINNER, M. (2021): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 30 Neumarkt im Hausruckkreis: Stand 2020, Wien.
31	Eferding	MOSER, M. & LINNER, M. (2021): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 31 Eferding: Stand 2020, Wien.
32	Linz	GRIESMEIER, G. E. U. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 32 Linz: Stand 2023, Wien.
40	Stockerau	KREUSS, O. (2021): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 40 Stockerau: Stand 2020, Wien.
41	Deutsch Wagram	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 41 Deutsch Wagram: Stand 2018, Wien.
42	Gänserndorf	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 42 Gänserndorf: Stand 2018, Wien.
43	Marchegg	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 43 Marchegg: Stand 2018, Wien.
44	Ostermiething	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 44 Ostermiething: Stand 2019, Wien.
45	Ranshofen	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 45 Ranshofen: Stand 2019, Wien.
46	Mattighofen	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 46 Mattighofen: Stand 2019, Wien.
48	Vöcklabruck	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 48 Vöcklabruck: Stand 2019, Wien.
50	Bad Hall	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 50 Bad Hall: Stand 2019, Wien.
51	Steyr	MOSER, M. (2019): GEOFAST - Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 - 51 Steyr: Stand 2019, Wien.
52	Sankt Peter in der Au	MOSER, M. & LINNER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 52 Sankt Peter in der Au: Stand 2019, Wien.
53	Amstetten	MOSER, M. & LINNER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 53 Amstetten: Stand 2019, Wien.
54	Melk	KREUSS, O. & LINNER, M. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 54 Melk: Stand 2018, Wien.
68	Kirchdorf an der Krems	GRIESMEIER, G. E. U. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 68 Kirchdorf a. d. Krems: Stand 2023, Wien.
73	Türnitz	MOSER, M. & PAVLIK, W. (2013): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 73 Türnitz: Stand 2013, Wien.
74	Hohenberg	MOSER, M. & PAVLIK, W. (2013): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 74 Hohenberg: Stand 2013, Wien.
84	Jungholz	MOSER, M. (2010): GEOFAST – Provisorische Geologische Karte 1:50.000 nach einem Manuskript von W. Zacher – 84 Jungholz: Stand 2009, Wien
85	Vils	MOSER, M. (2010): GEOFAST – Provisorische Geologische Karte 1:50.000 nach einem Manuskript von W. Zacher & U. Haas – 85 Vils: Stand 2009, Wien.
86	Ammerwald	MOSER, M. & PAVLIK, W. (2016): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 86 Ammerwald: Stand 2009, Wien.
87	Walchensee	KREUSS, O. (2018): GEOFAST – Provisorische geologische Karte der Republik Österreich 1:50.000 – 87 Walchensee: Stand 2006, Wien.
89	Angath	KREUSS, O. (2007): GEOFAST – Provisorische Geologische Karte der Republik Österreich 1:50.000 – 89 Angath: Stand 2006, Wien.
90	Kufstein	PAVLIK, W. (2008): GEOFAST – Zusammenstellung ausgewählte Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 90 Kufstein: Stand 2006, Wien.

91	Sankt Johann in Tirol	PAVLIK, W. (2018): GEOFAST – Zusammenstellung ausgewählte Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 91 Sankt Johann i. Tirol: Stand 2006, Wien.
92	Lofer	PAVLIK, W. (2018): GEOFAST – Provisorische geologische Karte der Republik Österreich 1:50.000 – 92 Lofer: Stand 2006, Wien.
93	Bad Reichenhall	PAVLIK, W. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 93 Bad Reichenhall: Stand 2007, Wien.
97	Bad Mitterndorf	MOSER, M. (2019): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 97 Bad Mitterndorf: Stand 2019, Wien.
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99	Rottenmann	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 99 Rottenmann: Stand 2014, Wien.
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114	Holzgau	KREUSS, O. (2014): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 114 Holzgau: Stand 2010, Wien.
115	Reutte	KREUSS, O. (2018): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 115 Reutte: Stand 2009, Wien.
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119	Schwaz	MOSER, M. (2024): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der Geologischen Bundesanstalt 1:50.000 – 119 Schwaz: Stand 2008, Wien.
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126	Radstadt	NEUBAUER, F. & MOSER, M. (2023): GEOFAST – Zusammenstellung ausgewählter Archivunterlagen der GeoSphere Austria 1:50.000 – 126 Radstadt: Stand 2022, Wien.
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3.2. Archive materials used

The archive materials utilized for the respective data publications can be directly retrieved from the GPKG. Both available layers gf_VPl and gf_VPo are a planar information including full references of the utilized archive materials.

3.3. References and links

Imageservices (Services for GIS applications and WEB applications):
https://gis.geosphere.at/images/rest/services/geologie/karte_geofast_50/ImageServer

Thesaurus (Development of a controlled vocabulary for the semantic harmonization of map-based geodata):
https://resource.geolba.ac.at/

Federal Office of Metrology and Surveying:
https://www.bev.gv.at