Freie Universität Berlin

Basics:
Publishing research data

Adapted from Ainsley Seago, CC-BY 4.0 / image cropped. Source

Coffee Lecture, 02 Feb. 2023

Andreas Hübner

Geowissenschaftliche Bibliothek

forschungsdaten management

Veröffentlicht unter: https://www.geo.fu-berlin.de/bibliotheken/Aktuelles/Coffee-Lectures-SommerSemester-2022.html

- Publish data in trustworthy, community-accepted, FAIR-aligned **repositories.**
- **Cite** data created or reused for your research in your publications.
- Include a **data availability statement** in your research article publication.
- **License** your data to be as open as possible.

Adapted from: http://www.copdess.org/enabling-fair-data-project/commitment-to-enabling-fair-data-in-the-earth-space-and-environmental-sciences

Repositories

Repository = (online accessible) database for the recording and publication of research data, texts and other digital objects[1]

Institutional Repository

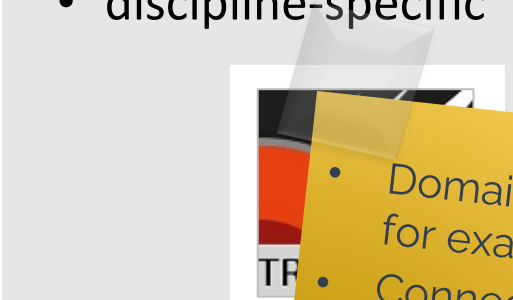
- members of the institution
- many disciplines

Re|fub|ium

DepositOnce
Repository for Research Data and Publications

Domain-specific Repository

- Researchers worldwide
- discipline-specific



- Domain-specific metadata, for example „location“
- Connected to domain-specific data portals
- Better quality-control

Generalistic Repository

- Researchers worldwide
- all disciplines

zenodo

figshare

Mendeley

[1] Einstieg ins Forschungsdatenmanagement in den Geowissenschaften, https://doi.org/10.2312/lis.14.01

GFZ DATA SERVICES
GEOSCIENCES DATA PUBLISHER

Dataset

3D-URG: 3D gravity constrained structural model of the Upper Rhine Graben

Released

Cite as:

Copy citation to clipboard

Freymark, Jessica; Bott, Judith; Scheck-Wenderoth, Magdalena; Bär, Kristian; Stiller, Manfred; Fritsche, Johann-Gerhard; Kracht, Matthias; Gomez Dacal, Maria Laura (2020): 3D-URG: 3D gravity constrained structural model of the Upper Rhine Graben. GFZ Data Services. https://doi.org/10.5880/GFZ.4.5.2020.004

file

link

Files

Download data (zip, 37.3 MB)
Data description

Dataset Description

Supplement to

Freymark, Jessica; Sippel, Judith; Scheck-Wenderoth, Magdalena; Bär, Kristian; Stiller, Manfred; Fritsche, Johann-Gerhard; et al. (2017): The deep thermal field of the Upper Rhine Graben. Tectonophysics. 10.1016/j.tecto.2016.11.013

Related Work

Derived from

Amante, C., & Eakins, B. W. (2009). *ETOPO1 Global Relief Model converted to PanMap layer format* [Data set]. PANGAEA - Data Publisher for Earth & Environmental Science. https://doi.org/10.1594/PANGAEA.769615

Arndt, D., Bär, K., Fritsche, J.-G., Sass, I., & Hoppe, A. (2011). 3D structural model of the Federal State of Hesse (Germany) for geopotential

Abstract

We provide a set of grid files that collectively allow recreating a 3D geological model which cover the Upper Rhine Graben and its adjacent tectonic domains, such as portions of the Swiss Alps, Molasse Basin, the Black Forest and Vosges Mountains, the Rhenish Massif and the Lower Rhine Grab publication is a complement to the publication of Freymark et al. (2017).

Accordingly, the provided structural model consists of (i) 14 sedimentary and volcani talline crust composed of seven upper crustal units and a lower crustal unit; and (iii) tw tle units. The files provided here include information on the regional variation of these ge terms of their depth and thickness, both attributes being allocated to regularly spaced grid izontal spacing of 1 km.

The model has originally been developed to obtain a basis for numerical simulations of heat transport, to calculate the lithospheric-scale conductive thermal field and assess the related geothermal potentials, in particular for the Upper Rhine Graben (a region especially well-suited for geothermal energy exploitation). Since such simulations require the subsurface variation of physical rock properties to be defined, the 3D model differentiates units of contrasting materials, i.e. rock types. On that account, a large number of geological and geophysical data have been analysed (see Related Work) and we shortly describe here how they have been integrated into a consistent 3D model (Methods). For further information on the data usage and the characteristics of the units (e.g., lithology, density, thermal properties), the reader is referred to the original article (Freymark et al., 2017). The contents and structure of the grid files provided herewith are described in the Technical Info section.

abstract

Additional Information

We acknowledge Landesamt für Geologie, Rohstoffe und Bergbau (LGRB; Baden-Wuerttemberg) for kindly allocating the digital datasets of the GeORG model and the geological 3D model of Baden-Wuerttemberg.

Methods

The presented 3D structural model is the result of an extensive data integration process. In a first step, we visualized and collectively analysed geological maps, smaller-scale 3D structural models, depth and thickness maps, drilled formation tops and interpreted seismic horizons (See Related Works) using the software Petrel (©Schlumberger). After identifying the main lithological units to be differentiated by the intended 3D model and correcting for inconsistencies between the layers, the scattered information on the top surface elevation of the units was interpolated to obtain regular grids with a horizontal element spacing of 1 km (Convergent Interpolation algorithm of Petrel). More details about the original datasets (e.g., their regional extents, sources etc.) used to model the topology of the structural horizons are listed in the Supplementary Material 1 of Freymark et al. (2017).

community-accepted data repositories
vs.
supplementary materials published along with journal articles

- data repositories issue DOIs
- poor quality of of supplementary material
- poor long-term accessibiliby of supplementary material

- Publish data in trustworthy, community-accepted, FAIR-aligned **repositories.**
- **Cite** data created or reused for your research in your publications.
- Include a **data availability statement** in your research article publication.
- **License** your data to be as open as possible.

Adapted from: http://www.copdess.org/enabling-fair-data-project/commitment-to-enabling-fair-data-in-the-earth-space-and-environmental-sciences

References

Maesano, F. E., Toscani, G., Burrato, P., Mirabella, F., D'Ambrogi, C., & Basili, R. (2013). Deriving thrust fault slip rates from geological modeling: Examples from the Marche coastal and offshore contraction belt, Northern Apennines, Italy. *Marine and Petroleum Geology, 42*, 122–134. https://doi.org/10.1016/j.marpetgeo.2012.10.008

Maffucci, R., Petracchini, L., Livani, M., Billi, A., Carminati, E., Cuffaro, M., et al. (2020). *Seismic Reflection Profile Dataset in a 3D Environment of the Northern Adriatic Area (Italy)*. GFZ Data Services. https://doi.org/10.5880/fidgeo.2020.027

Malinverno, A., & Ryan, W. B. (1986). Extension in the Tyrrhenian Sea and shortening in the Apennines as result of arc migration driven by sinking of the lithosphere. *Tectonics, 5*(2), 227–245. https://doi.org/10.1029/TC005i002p00227

ESIP Data Preservation and Stewardship Committee. 2019. Data Citation Guidelines for Earth Science Data. Ver. 2. Earth Science Information Partners. https://doi.org/10.6084/m9.figshare.8441816

- Maffucci, Roberta; Petracchini, Lorenzo; Livani, Michele; Billi, Andrea; Carminati, Eugenio; Cuffaro, Marco; Petricca, Patrizio; Doglioni, Carlo
- (2020):
- Seismic reflection profile dataset in a 3D environment of the Northern Adriatic area (Italy).
- GFZ Data Services.
- https://doi.org/10.5880/fidgeo.2020.027

ESIP Data Preservation and Stewardship Committee. 2019. Data Citation Guidelines for Earth Science Data. Ver. 2. Earth Science Information Partners. https://doi.org/10.6084/m9.figshare.8441816

- Publish data in trustworthy, community-accepted, FAIR-aligned **repositories.**
- **Cite** data created or reused for your research in your publications.
- Include a **data availability statement** in your research article publication.
- **License** your data to be as open as possible.

Adapted from: http://www.copdess.org/enabling-fair-data-project/commitment-to-enabling-fair-data-in-the-earth-space-and-environmental-sciences

Tectonics

RESEARCH ARTICLE
10.1029/2020TC006425

Active Fold-Thrust Belt to Foreland Transition in Northern Adria, Italy, Tracked by Seismic Reflection Profiles and GPS Offshore Data

Key Points:
- Seismic reflection profiles in the

Data Availability Statement

All data needed to evaluate the conclusions in the paper are present in the paper itself and/or the associated supporting information. All these data are also freely available in external repositories and previous articles. In particular, the geodetic data are available in Palano et al. (2020) (https://doi.pangaea.de/10.1594/PANGAEA.914358). The seismic reflection profiles organized in a 3-D Move® file/project are available in Maffucci et al. (2020) (http://pmd.gfz-potsdam.de/panmetaworks/review/aaf30ce1d97be14e03c64b5a638334ed0c40007bc91f6029b83a149727f47c5f). Supporting figures (Figures S1 and S2) and tables are available online (ftp://ftp.ingv.it/pub/giuseppe.pezzo/TECT_2020TC006425/). In the data repository, we make available the subsurface geophysical data set used to classify the tectonic domains of the studied CGPS stations (i.e., fold-thrust belt, proto-thrust domain, and foreland). The data set is organized into the Move® software (Midland Valley) environment, version 2016.2 and includes 60 public 2-D multichannel seismic reflection profiles deriving from the ViDEPI database (http://www.videpi.com). The dataset and its full description is available on the following link: http://doi.org/10.5880/fidgeo.2020.027 (Maffucci et al., 2020); CGPS data and its full description is available on the following link: https://doi.org/10.1594/PANGAEA.914358 (Palano et al., 2020).

Availability of data	Template for data availability statement
Data openly available in a public repository that issues datasets with DOIs	The data that support the findings of this study are openly available in [repository name e.g “figshare”] at http://doi.org/[doi], reference number [reference number].

Data derived from public domain resources

Embargo on data due to commercial restrictions

Data not available due to [ethical/legal/commercial] restrictions

Data not available - participant consent

Data available on request from the authors

Not recommended

https://authorservices.taylorandfrancis.com/data-sharing/share-your-data/data-availability-statements/

- Publish data in trustworthy, community-accepted, FAIR-aligned **repositories.**
- **Cite** data created or reused for your research in your publications.
- Include a **data availability statement** in your research article publication.
- **License** your data to be as open as possible.

Adapted from: http://www.copdess.org/enabling-fair-data-project/commitment-to-enabling-fair-data-in-the-earth-space-and-environmental-sciences

creative commons

No rights reserved (0): No Rights Reserved

Attribution (BY): You must give

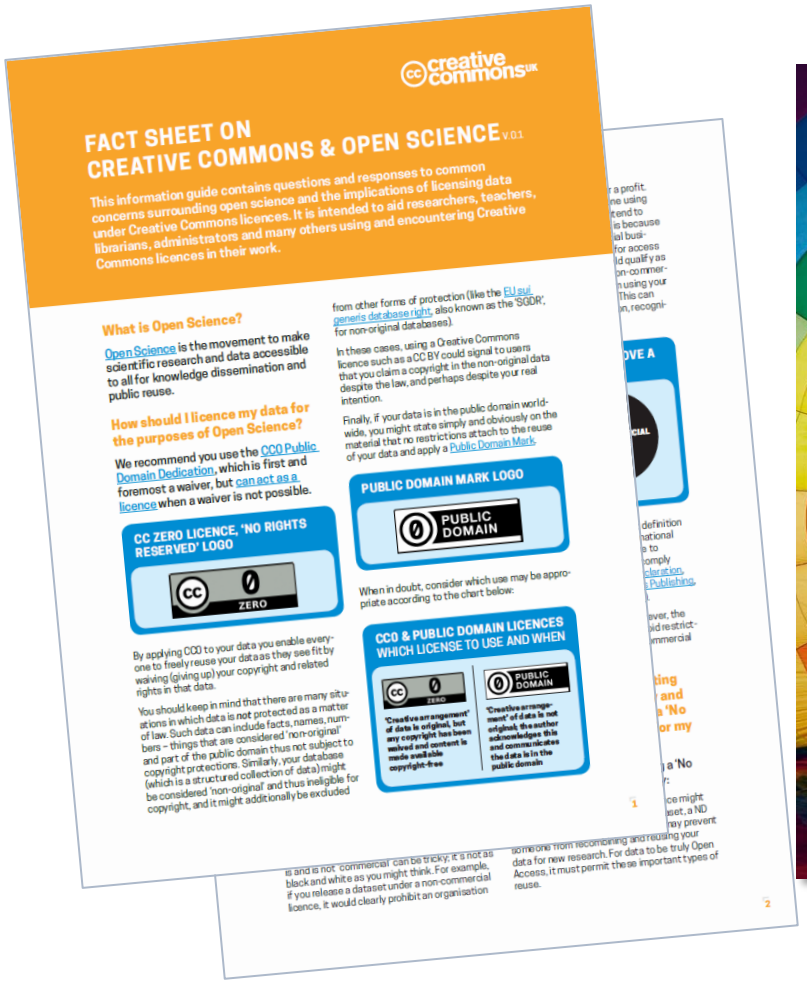
Public Domain (PD): no known

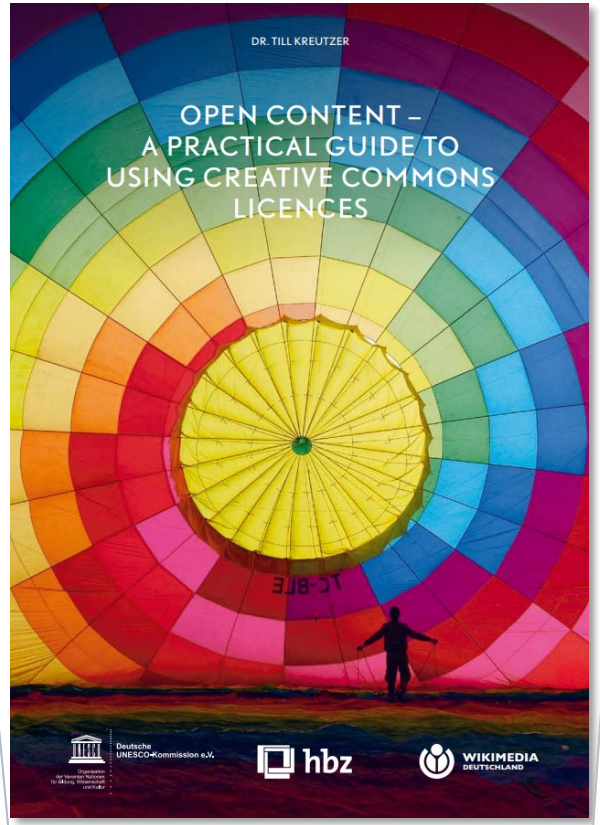
Use CCo and simply ask for credit (rather than require attribution), and provide a citation for the dataset that others can copy and paste with ease.

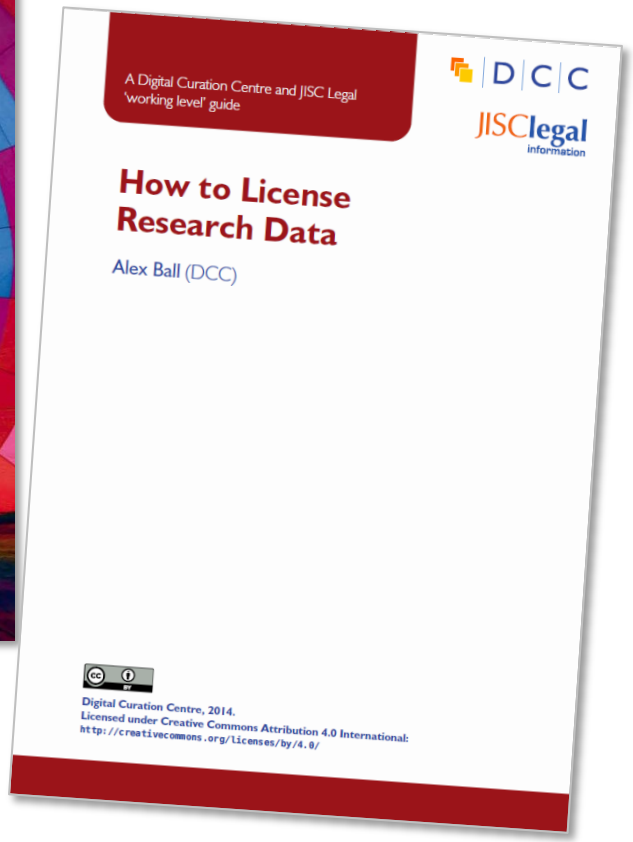
Licencing of software

https://www.software.ac.uk/resources/guides/adopting-open-source-licence, https://www.gnu.org/licenses/license-list.en.html

https://creativecommons.org/







Creative Commons UK. (2017). Fact Sheet on Creative Commons & Open Science. Zenodo. 10.5281/zenodo.840651
https://irights.info/wp-content/uploads/2014/11/Open_Content_A_Practical_Guide_to_Using_Open_Content_Licences_web.pdf
http://www.dcc.ac.uk/sites/default/files/documents/publications/reports/guides/How_To_License_Research_Data.pdf