



Fachinformationsdienst Geowissenschaften

Specialised Information Service for Geosciences

**Services for Openness in Earth Sciences**

# Background



# Challenges



Open Source

Open  
Educational  
Resources



ROR

Open Data

Data Acts

<b>FAIR</b> Principles
Findable
Accessible
Interoperable
Reusable



(<https://www.alamy.de/stockfoto-wissenschaftlerin-mit-lupe-163648035.html>)



Fachinformationsdienst Geowissenschaften

Specialised Information Service for Geosciences

A hub for the publication and the connection of diverse research results  
and groups in Germany

**Melanie Lorenz, Kirsten Elger, Inke Achterberg and Malte Semmler**

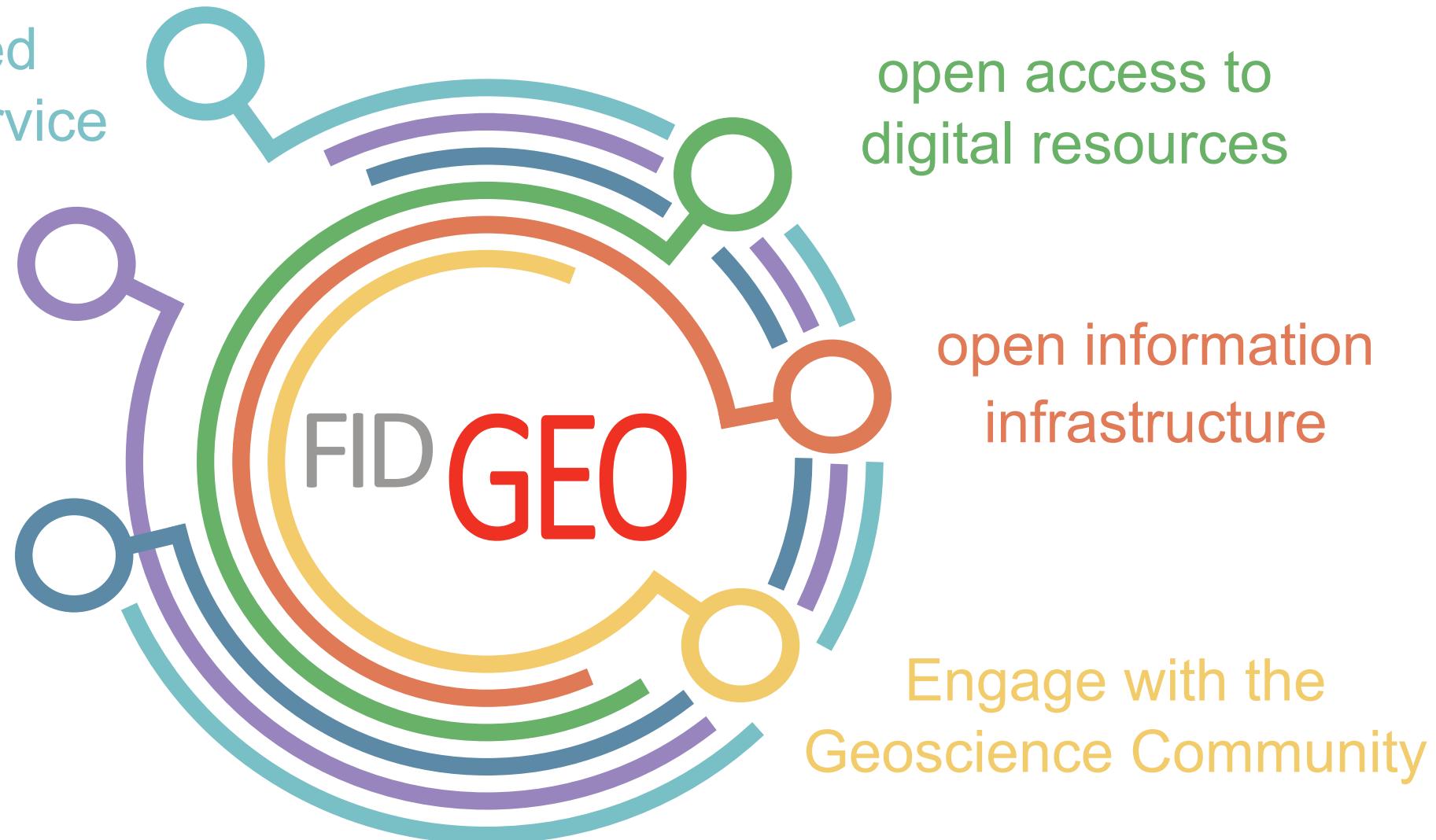


# Mission

Library based  
Information service

Funded by  
**DFG** Deutsche  
Forschungsgemeinschaft  
German Research Foundation

highly connected  
librarians,  
geoscientists,  
data-publishing-  
professionals



# Services

Collaborations



Open Science



Research Data



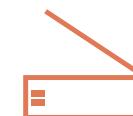
 GFZ DATA SERVICES  
GEOSCIENCES DATA PUBLISHER



Open Access



Digitization



Community Engagement

# Open Science

data

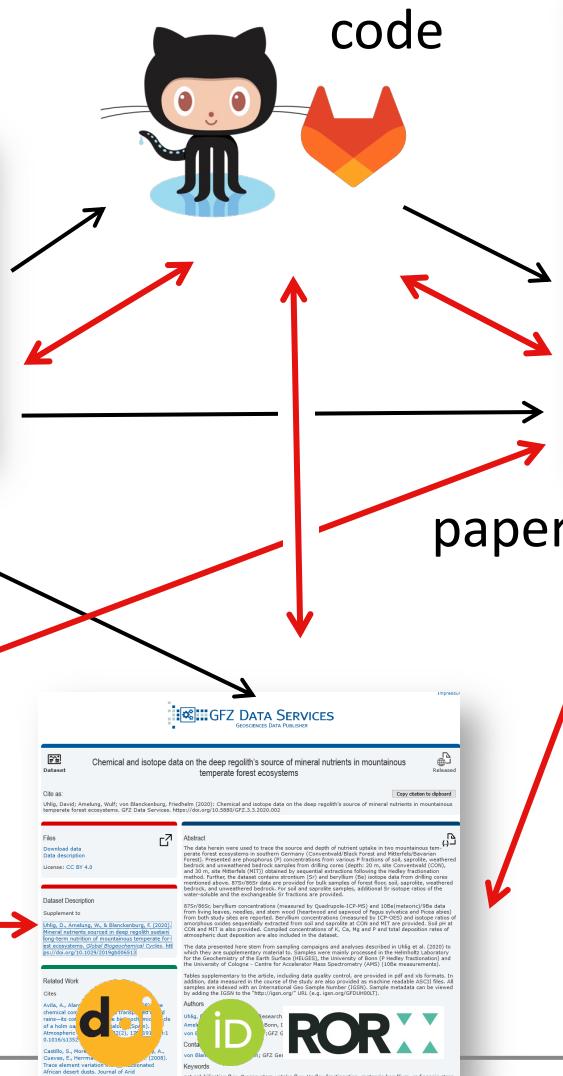


sample

Sample description

sample ID	IGSN	brief sample description	Element concentrations ( $\mu\text{g/g}$ )				
			Al	Fe	Mn	Mg	Ca

sample ID	IGSN	sample type	XRF lab	depth (cm)	Major element oxides (wt%)			
					SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>
MW1					(continued)			
MW2								
MW3								
P301								
MW4								
mean j (2SE)								
SN01 *	GFFB1002T	bulk soil	GFZ	7	36.2	0.55	11.4	3.88
SN02 *	GFFB1002U	bulk soil	GFZ	20	49.3	0.71	14.9	4.84
SN02e *	GFFB1002U	exchangeable soil	-	20	n.a.	<lod	0.00	0.00
SN02r *	GFFB1002U	residuum soil	-	20	n.a.	0.84	14.3	5.68
SN03 *	GFFB1002V	bulk soil	GFZ	30	57.5	0.88	17.6	6.44
SN04 *	GFFB1002R	bulk soil	GFZ	39	56.6	0.93	17.7	6.85
SN04e *	GFFB1002R	exchangeable soil	-	39	n.a.	<lod	0.00	0.00
SN04r *	GFFB1002R	residuum soil	-	39	n.a.	0.91	15.3	6.95



Data publication



Scientific Drilling  
The open-access ICDP and IODP journal

doi id

Sci. Drill., 19, 1–11, 2015  
<https://doi.org/10.5194/sd-19-1-2015>  
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D. G.
Zoic C.

D. Uhlig
W. Amelung
F. von Blanckenburg

First published: 19 August 2020 | <https://doi.org/10.1029/2019GB006513> | Citations: 2

## Global Biogeochemical Cycles

Research Article | Open Access

Mineral Nutrients Sourced in Deep Regolith Sustain Long-Term Nutrition of Mountainous Temperate Forest Ecosystems

D. Uhlig, W. Amelung, F. von Blanckenburg

PIDs connect  
everything → FAIR

# Metadata Elements: Persistent Identifier (PID)



for paper, data,  
software

<https://doi.org/10.5880/fidgeo.2021.049> (Data)



PID for physical samples,  
cross references to  
samples underlying  
measurements

<https://igsn.org/GFFJH00AD> (Rock sample)



uniquely identifying  
persons

<https://orcid.org/0000-0001-5140-8602> (Kirsten Elger)



New PID for Institutions

<https://ror.org/046ak2485> (FU Berlin)

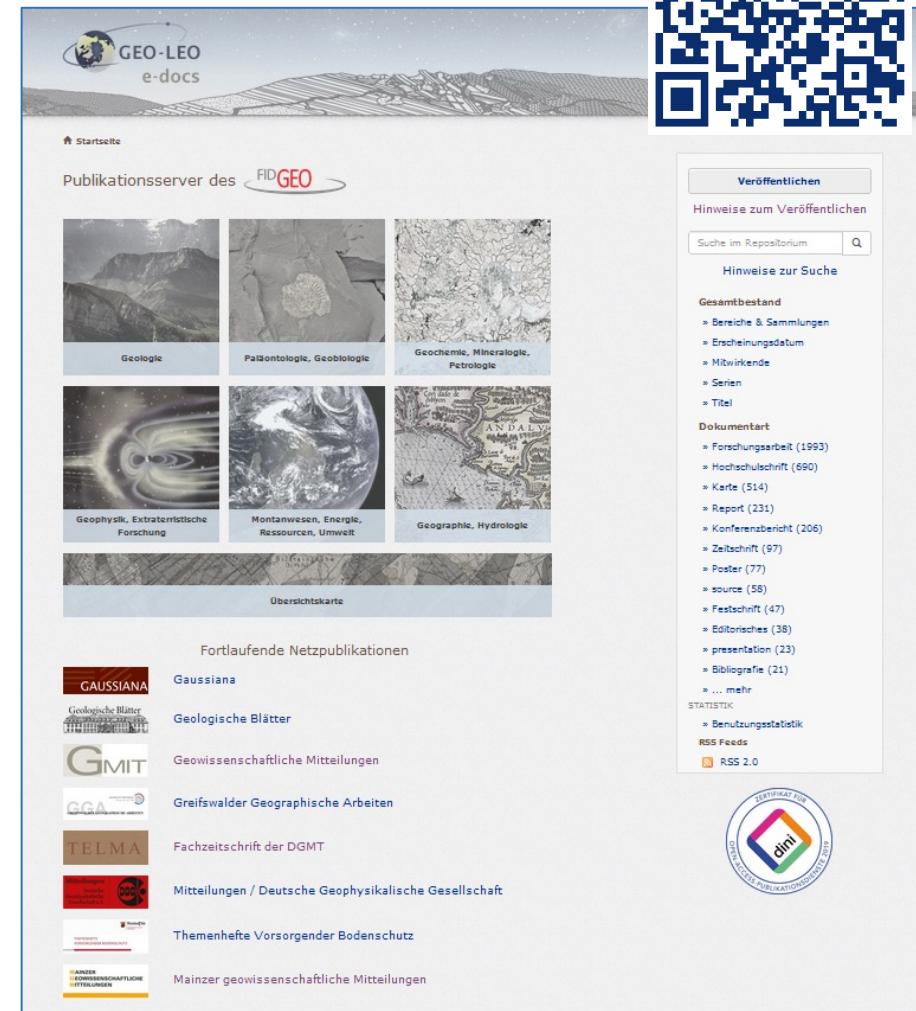
# Open Access Repository

## Geoscientific Repository for the publication of

- Scientific articles
- Monographs
- Institutional series
- Excursion guides
- Conference proceedings

## Offering

- Free access, open licences
- Long-term archiving
- DOI, ORCID
- Full text search - Visibility in portals and library catalogs
- Overview map of freely available online geological maps



The screenshot shows the homepage of the GEO-LEO e-docs repository. At the top, there is a globe icon and the text "GEO-LEO e-docs". Below this is a banner with a landscape image and the text "Publikationsserver des FIDGEO". The main content area features a grid of six thumbnail images representing different scientific fields: Geologie, Paläontologie, Geoökologie, Geochemie, Mineralogie, Petrologie; Geophysik, Extraterrestrische Forschung; Montanwesen, Energie, Ressourcen, Umwelt; and Geographie, Hydrologie. Below the thumbnails is an "Übersichtskarte" (overview map). To the right, there is a sidebar with links for "Veröffentlichen", "Hinweise zum Veröffentlichen", "Suche im Repository", "Hinweise zur Suche", "Gesamtbestand", "Dokumentart", "STATISTIK", and "RSS Feeds". A circular seal for "ZERTIFIKAT FÜR OPEN-ACCESS-PUBLIKATIONSSYSTEME" is also present.

# Open Access Repository

## Open-Access-Transformation of geoscientific Journals

- Online Publication on GEO-LEOe-docs
- Digitization of older issues *inclusive*

The screenshot shows the homepage of the GEO-LEO e-docs platform. It features a search bar at the top with the placeholder "Startseite / Alle Publikationen / Institutionelle Serien und Zeitschriften". Below the search bar, there's a section for "Serien und Zeitschriften" with a dropdown menu for letters A-Q. A search input field says "Oder geben Sie die ersten Buchstaben ein:" followed by a "Los" button. To the right, there's a detailed view of a historical journal issue from 1928 titled "Zeitschrift für Geophysik". The page includes the journal's title, volume information (Band 4), and a QR code linking to the full text.



# Research Data Repository



## Publication of Research Data + Software

- Quality Assured: Curation + Documentation
- Comprehensive metadata for data discovery
- FAIR Data Standards
- Data centres for partners and projects
- with individual layout of DOI landing pages
- Persistent Identifiers



doi
Seismicity catalog, focal mechanism catalog and P-wave velocity structure between Pamir and Tarim

Released

[Copy citation to clipboard](#)

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**Data Access Licence**

**Dataset**

Cite as:

Bloch, Wasja; Schurz, Bernd; Yuan, Xiaohui; Ratschbacher, Lothar; Reuter, Sanaa; Kuhner, Sofia-Katerina; Qiang, Xu; Junmeng, Zhao (2021): Seismicity catalog, focal mechanism catalog and P-wave velocity structure between Pamir and Tarim. GFZ Data Services. <https://doi.org/10.5380/fidgeo.2021.039>

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**Abstract**

The Pamir plateau protrudes ~300 km between the Tajik- and Tarim-basin lithosphere of Central Asia. We present a new local-seismicity catalog, a focal-mechanism catalog, and a P-wave velocity model of the collision system between the Pamir plateau and the Tarim basin. The data suggest a south-dipping Asian slab that overthrusts its easternmost segment. The largest principal stress at depth acts normal to the thrust and is oriented parallel to the plate convergence direction. In front (south) of the Asian slab, a volume of mantle with elevated velocities and low shear-seismicity constitutes the postulated Indian mantle indenter.

[View](#)

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**Dataset Description**

**Supplement to**

Bloch, W., Schurz, B., Yuan, X., Ratschbacher, L., Reuter, S., Kuhner, S.-K., Xu, Q., & Zhao, J. (2021). Seismicity catalog, focal mechanism catalog and P-wave velocity structure between Pamir and Tarim. *Geophysical Research Letters*. <https://doi.org/10.1029/2021gl09413>

[View](#)

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**Related Work**

**Authors**

Bloch, W., Schurz, B., Kummerow, J., Salazar, P., Shapiro, S. A. (2018). From the Coupling Slab-Pull to Strain Release in the Subducting Asian Plate. *Geophysical Research Letters*, 45(1), 5407–5416. <https://doi.org/10.1029/2018gl078793>

Comino, J. Á., Le, H., Heumann, S., Cesca, S., Milleret, C., Dahm, T., & Zang, A. (2017). Automated Full Waveform Detection and Location Algorithm of Acoustic Emissions from Hydraulic Fracture Experiment. *Procedia Engineering*, 191, 695–702. <https://doi.org/10.1016/j.proeng.2017.05.234>

Diehl, T., Densmore, N., Densmore, B., & Husen, S. (2008). Seismic Synthesis Pickers for Earthquake Tomography. *Bulletin of the Seismological Society of America*, 98(5), 1906–1920. <https://doi.org/10.1785/0512080019>

Hardebeck, J. L. (2003). Using S/P Amplitude Ratios to Constrain the Focal Mechanism of Small Earthquakes. *Bulletin of the Seismological Society of America*, 93(6), 2434–2446. <https://doi.org/10.1785/0120020236>

Kissling, E., Ellsworth, W. L., Eberhart-Phillips, D., & Vigny, C. (2003). Widespread seismicity in local earthquake tomography. *Journal of Geophysical Research: Solid Earth*, 99, 19635–19646. <https://doi.org/10.1029/99jb03138>

Kuhner, S.-K., Schurz, B., Sippl, C., Yuan, X., Ratschbacher, L. (2021). [View](#)

[View](#)

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**Related References**

**Location**

Click/over markers or bounding boxes to see related details. Click/over details to see related marker or bounding box.

[View](#)

id
GFZ German Research Centre for Geosciences

Authors

[View](#)

NASA
EARTHDATA

GCMD Keywords

[View](#)

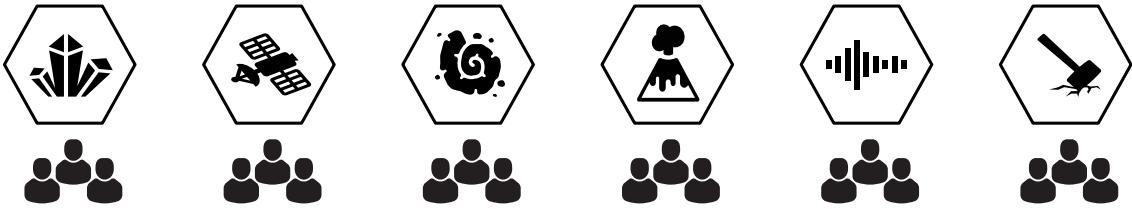
**GFZ**  
Helmholtz-Zentrum  
POTS DAM

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**cc** **BY**

# Community Engagement

## Consulting + Lectures + Workshops – adapted to the individual sub-disciplines



- How to make the most of your ORCID record.
- Describing, publishing and citing research data.
- Relevant data acts for geosciences.
- Open Science, Open Data, Open Access – what are open paths in geoscientific publishing?

## Editorial Work (e.g. hands on articles on open science best practices)



### GMIT – Geowissenschaftliche Mitteilungen

How to cite data publications correctly  
(<https://doi.org/10.23689/fidgeo-5833>)

Recommendations for using ORCID  
(<https://doi.org/10.23689/fidgeo-5832>)

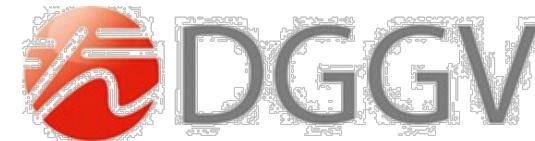


# Collaborations

## Geoscience Academic Societies + other Geoscience Associations in Germany



GeSTEIN



## Information services + the National Research Data Infrastructure 4 Earth



NFDI4Earth



## Subject-relevant libraries (Arbeitskreis Geo- und Umweltbibliotheken), GeoParks



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# Outreach

## Communication Channels (fidgeo.de, Social Media)



[fidgeo.de](https://fidgeo.de)

@fid\_geo

@fidgeo@openbiblio.social

news-on@fidgeo.de

Information about and input to relevant data acts: **German Geological Data Act, upcoming Research Data Act** – for a representation of the Geoscience Community and our interests

# Thank you for your attention!

## Team



@ GFZ



**Melanie Lorenz**

*Ansprechpartnerin für die  
Publikation von  
Forschungsdaten  
[Bibliothek und  
Informationsdienste \(LIS\)](#)*



**Kirsten Elger**

*Ansprechpartnerin für die  
Publikation von  
Forschungsdaten, Leitung  
des GFZ Data Services  
[Bibliothek und  
Informationsdienste \(LIS\)](#)*



**Malte Semmler**

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LEOe-docs](#) und  
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[Staats- und  
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