

## Explanation for Metadata Fields used by GFZ Data Services

(modified after DataCite Metadata Schema for the Publication and Citation of Research Data, Version 3.1 October 2014, doi:10.5438/0010)

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### Citation

Because many users of the metadata schema are members of a variety of academic disciplines, DataCite remains discipline agnostic concerning matters pertaining to academic style sheet requirements. Therefore, DataCite encourages rather than requires a particular citation format. In keeping with this approach, the following is the preferred format for rendering a DataCite citation for human readers using the first five properties of the schema:

**Author (PublicationYear): Title. Publisher. Identifier**

It may also be desirable to include information from two optional properties, Version and ResourceType (as appropriate). If so, the preferred form is as follows:

**Author (PublicationYear): Title. Version. Publisher. ResourceType. Identifier**

### Definition and recommendations for the metadata schema used for data publications with GFZ Data Services

| Resource Information |  |   |
|----------------------|--|---|
| DOI                  | We recommend DOI identifier  | The DOI is a unique string that identifies a resource. Format should be 10.5880/GFZ   |
| Publisher            | The name of the entity that holds, archives, publishes, prints, distributes, releases, issues, or produces the resource. This property will be used to formulate the citation, so consider the prominence of the role. <b>By default, GFZ Data Services is the publisher. If this should not be the case, e.g. in some cooperation projects, please contact us for further advice. Note: the publisher will be named in the citation of the dataset as requested by the citation guidelines of DataCite (see above).</b> |   |
| Publication Year     | The year when the data was or will be made publicly available.<br>If an embargo period has been in effect, use the date when the embargo period ends. In the case of datasets, "publish" is understood to mean making the data available on a specific date to the community of researchers.<br>If there is no standard publication year value, use the date that would be preferred from a citation perspective.  |   |
| Licences and Rights  |  |   |
| Licence              | CC BY 4.0  | “Creative Commons is a non-profit organization that enables the sharing and use of creativity and knowledge through free legal tools. The free, easy-to-use copyright licenses provide a simple, standardized way to give the public permission to share and use your creative work — on conditions of your choice. CC licenses let you easily change your copyright terms from the default of ‘all rights reserved’ to ‘some rights reserved.’ Creative Commons licenses are |
| Licence              | CC BY 3.0  |   |
| Licence              | CC BY-SA 4.0   |   |
| Licence              | CC BY-SA 3.0   |   |
| Licence              | CCO  |   |

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|  |  | not an alternative to copyright. They work alongside copyright and enable you to modify your copyright terms to best suit your needs". (source: creativecommons.org)<br>Whenever possible, we recommend to assign the freest licence "CC BY" to your data ("use it, change it, redistribute it, but always name me as reference"), for some cases the "attribution share alike" licence CC BY-SA (same as above, but the data may only be redistributed under the same licence), or CC0. We recommend the 4.0 version. "The CC0 licence is a tool to deliberately dedicate copyright-protected works to the public domain. Thus, it is basically a waiver of rights. Once it is in effect, a work belongs to the public domain and can be used by anyone without any restrictions or obligations. CC0 is nothing but a standardised declaration of such a waiver which can be used by anyone who wishes to dedicate their work to the public domain." (source: Open content – A practical guide to using Creative Commons licences) |
|--|--|---|

### Authors (persons and/or institutions), Contact, and Contributor

|  |  |  |
|--|--|--|
| <b>Authors Name</b>                      | The main researchers involved in producing the data, or the authors of the publication, in priority order. May be a corporate/institutional or personal name. The personal name format should be: family, given. Non-roman names may be transliterated according to the ALA-LC schemes 10. <b>Authors are named in the citation (in contrast to contributors)</b><br>Note: if the <b>Editor</b> is to be credited in place of multiple creators, <b>the Editor's name may be supplied as Creator, with "(Ed.)"</b> appended to the name.   |  |
| <b>Role</b>                              | Valid for authors and contributors, see below  |  |
| <b>Author ID Type/ Author Identifier</b> | Due to varying spellings of author names it is difficult to find all works of a specific researcher in catalogue systems. Several solutions were developed to cope with this problem by assigning a unique identifier to authors and contributors of publications. You can select here the type of solution you are using for identification (ORCID, INSI, Researcher ID, Scopus). After selection enter your <b>author identifier</b> to the right.   |  |
| <b>Contact</b>                           | See description of the role of ContactPerson.  | May be a person or an institutional contact (e.g. Geofon Data Centre, email: geofon@gfz-potsdam.de). <b>This field requires additional information (email, phone number as appropriate) and is therefore more prominently presented than other contributors. The contact person is also listed as "contributor" with the role "contact person"</b> |
| <b>Contributor</b>                       | The institution or person responsible for collecting, managing, distributing, or otherwise contributing to the development of the resource. The personal name format should be: family, given. <b>Note: if contributor is used, the role of each contributor is mandatory (see description of "Roles for Authors and Contributors" below).</b> With "contributor" you have the possibility to acknowledge additional persons or institutions related to the dataset but which you would normally not mention as authors. These are not named in the citation, but always related with the dataset and searchable as all the other metadata fields. |  |

### Roles for Authors and Contributors (mandatory if contributor is used)

|                      |  |  |
|----------------------|--|--|
| <b>ContactPerson</b> | Person with knowledge of how to access, troubleshoot, or otherwise field issues related to the resource                  | <b>May also be "Point of Contact" in organization that controls access to the resource</b> , if that organization is different from Publisher, Distributor, Data Manager |
| <b>DataCollector</b> | Person/institution responsible for finding, gathering/collecting data under the guidelines of the author(s) or Principal | May also use when crediting survey conductors, interviewers, event or condition observers, person responsible for monitoring key instrument data.                        |

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|                           | Investigator (PI)   |   |
| <b>DataCurator</b>        | Person tasked with reviewing, enhancing, cleaning, or standardizing metadata and the associated data submitted for storage, use, and maintenance within a data center or repository | While the “DataManager” is concerned with digital maintenance, the DataCurators’ role encompasses quality assurance focused on content and metadata. This includes checking whether the submitted dataset is complete, with all files and components as described by submitter, whether the metadata is standardized to appropriate systems and schema, whether specialized metadata is needed to add value and ensure access across disciplines, and determining how the metadata might map to search engines, database products, and automated feeds. |
| <b>DataManager</b>        | Person (or organization with a staff of data managers, such as a data centre) responsible for maintaining the finished resource.  | The work done by this person or organization ensures that the resource is periodically “refreshed” in terms of software/hardware support, is kept available or is protected from unauthorized access, is stored in accordance with industry standards, and is handled in accordance with the records management requirements applicable to it.  |
| <b>Distributor</b>        | Institution tasked with responsibility to generate/disseminate copies of the resource in either electronic or print form.   | Works stored in more than one archive/repository may credit each as a distributor.  |
| <b>Editor</b>             | A person who oversees the details related to the publication format of the resource.  | <b>Note: if the Editor is to be credited in place of multiple creators, the Editor’s name may be supplied as Creator, with “(Ed.)” appended to the name.</b>  |
| <b>Funder</b>             | Institution that provided financial support for the development of the resource.  | <b>Recommended for discovery.</b> Includes organizations that provide funding via regular budget allocations, through grants or awards  |
| <b>HostingInstitution</b> | Typically, the organization allowing the resource to be available on the internet through the provision of its hardware/software/operating support.                                 | May also be used for an organization that stores the data offline. Often a data centre (if that data centre is not the “publisher” of the resource.). <b>There may be two hosting institutions if the data or work is stored in both.</b>   |
| <b>Producer</b>           | Typically a person or organization responsible for the artistry and form of a media product.  | In the data industry, this may be a company “producing” DVDs that package data for future dissemination by a distributor.   |
| <b>ProjectLeader</b>      | Person officially designated as head of project team or subproject team instrumental in the work necessary to development of the resource.  | The Project Leader is not “removed” from the work that resulted in the resource; he or she remains intimately involved throughout the life of the particular project team.  |
| <b>ProjectManager</b>     | Person officially designated as manager of a project. Project may consist of one or many project teams and sub-teams.   | The manager of a project normally has more administrative responsibility than actual work involvement.  |
| <b>ProjectMember</b>      | Person on the membership list of a designated project/project team.   | This vocabulary may or may not indicate the quality, quantity, or substance of the person’s involvement.  |
| <b>RegistrationAgency</b> | Institution/organization officially appointed by a Registration Authority to  | DataCite is a Registration Agency for the International DOI Foundation (IDF). One of DataCite’s tasks is to assign DOI prefixes to the allocating agents who then assign the full,  |

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|                              | handle specific tasks within a defined area of responsibility.  | specific character string to data clients, provide metadata back to the DataCite registry, etc.  |
| <b>RegistrationAuthority</b> | A standards-setting body from which Registration Agencies obtain official recognition and guidance.   | The IDF serves as the Registration Authority for the International Standards Organization (ISO) in the area/domain of Digital Object Identifiers.  |
| <b>RelatedPerson</b>         | A person without a specifically defined role in the development of the resource, but who is someone the author wishes to recognize.   | This person could be an author’s intellectual mentor, a person providing intellectual leadership in the discipline or subject domain, etc.   |
| <b>Researcher</b>            | A person involved in analysing data or the results of an experiment or formal study. May indicate an intern or assistant to one of the authors who helped with research but who was not so “key” as to be listed as an author.  | Should be a person, not an institution. Note that a person involved in the gathering of data would fall under the contributorType “DataCollector.” The researcher may find additional data online and correlate it to the data collected for the experiment or study, for example.   |
| <b>ResearchGroup</b>         | Typically refers to a group of individuals with a lab, department, or division; the group has a particular, defined focus of activity.  | May operate at a narrower level of scope; may or may not hold less administrative responsibility than a project team.  |
| <b>RightsHolder</b>          | Person or institution owning or managing property rights, including intellectual property rights over the resource.   |  |
| <b>Sponsor</b>               | Person or organization that issued a contract or under the auspices of which a work has been written, printed, published, developed, etc.   | Includes organizations that provide in-kind support, through donation, provision of people or a facility or instrumentation necessary for the development of the resource, etc.  |
| <b>Supervisor</b>            | Designated administrator over one or more groups/teams working to produce a resource or over one or more steps of a development process.  |  |
| <b>WorkPackageLeader</b>     | A Work Package is a recognized data product, not all of which is included in publication. The package, instead, may include notes, discarded documents, etc. The Work Package Leader is responsible for ensuring the comprehensive contents, versioning, and availability of the Work Package during the development of the resource. |  |
| <b>Other</b>                 | Any person or institution making a significant contribution to the development and/or maintenance of the resource, but whose contribution does not “fit” other controlled vocabulary for contributorType.   | Could be a photographer, artist, or writer whose contribution helped to publicize the resource (as opposed to creating it), a reviewer of the resource, someone providing administrative services to the author (such as depositing updates into an online repository, analysing usage, etc.), or one of many other roles. |
| <b>Descriptions</b>          |   |  |
| <b>Type</b>                  | <b>Abstract</b>   | Abstract: A brief description of the resource and the context in which the resource was created. <b>Note: the abstract shall be understandable for a broader scientific community. It may contain a short introduction to the project or method,</b>   |

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|   |   | names the partner/institutions, summary of datasets within the publication (e.g. 7 boreholes reaching depths from 2-14 m" or "This DOI encompasses broadband seismic data from c. 20 stations in Northern Chile, recorded since 2006"), etc. (Recommended for discovery. Use "<br>" to indicate a line break for improved rendering of multiple paragraphs, but otherwise no html markup.) |
| Type  | <b>Methods</b>  | The methodology employed for the study or research. (Recommended for discovery.)   |
| Type  | <b>Series Information</b>   | Information about a repeating series, such as volume, issue, number.<br>For dataset series, indicate relationships below "Related Work" to other datasets. Use PartOf or HasPart to characterise the relationship.<br>For use with grey literature. If providing an ISSN, use "Related Work" and characterize the relationship with an ISSN identifier.                                    |
| Type  | <b>Table of Contents</b>  | TableOfContents: A listing of the Table of Contents. (Use "<br>" to indicate a line break for improved rendering of multiple paragraphs, but otherwise no html markup.)  |
| Type  | <b>other</b>  | Other: Other description information that does not fit into an existing category (Use for any other description type.).  |
| <b>Keywords via thesauri or free keywords</b> |   |  |
| <b>Keywords →Thesauri</b>                     | Standardised metadata requires the selection of keywords of two different thesauri: GEMET Thesaurus (to follow INSPIRE Guidelines), and NASA GCMD Science Keywords. | Please select at least one keyword of each thesaurus by either using the tree (access to lower categories by clicking the + to the left of each name, selection of a password by clicking the green "+" to the right) or us the search option to identify appropriate keywords   |
|   | Scheme, Scheme url, Language  | Will be filled automatically, when selecting passwords from a thesaurus  |
| <b>Keywords →Free</b>                         | Please enter additional keywords as appropriate   |  |
| <b>Spatial Coverage</b>                       |   |  |
| <b>Spatial Coverage</b>                       | Spatial region or named place where the data was gathered or about which the data is focused.   | It may be a bounding box (lat min, long min, lat max, long max), one or several points (lat min, long min) or a free text description of a place (e.g. North Atlantic). You may enter the coordinates (decimal degrees with at least 4 decimal digits) directly or visually via the map (access via the "edit" symbol to the left)   |
| <b>Dates</b>                                  |   |  |
| <b>Dates</b>                                  | <b>Created</b>  | The date the resource itself was put together; this could be a single date for a final component, e.g., the finalised file with all of the data. (Recommended for discovery.)  |
|   | <b>Embargo until</b>  | The date the resource is made publicly available. Use this field to indicate the end of an embargo period.   |
|   | <b>Valid</b>  | The date or date range during which the dataset or resource is accurate  |
|   | <b>Temporal Coverage</b>  | Temporal coverage of time series: starting date, starting time, end date, end time as appropriate.<br>For ongoing surveys please enter only the starting date (and time).<br>For entering the year without further specification, please   |

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|                     |                            | use the format YYYY, for determining year and month, use YYYY-MM.  |
| <b>Related Work</b> |                            |  |
| Relation            | <b>IsCitedBy</b>           | indicates that B includes A in a citation (recommended for discovery).   |
| Relation            | <b>Cites</b>               | indicates that A includes B in a citation (recommended for discovery).   |
| Relation            | <b>IsSupplementTo</b>      | indicates that A is a supplement to B (recommended for discovery).   |
| Relation            | <b>IsSupplementedBy</b>    | indicates that B is a supplement to A (recommended for discovery).   |
| Relation            | <b>IsContinuedBy</b>       | indicates A is continued by the work B   |
| Relation            | <b>Continues</b>           | indicates A is a continuation of the work B  |
| Relation            | <b>HasMetadata</b>         | indicates resource A has additional metadata B   |
| Relation            | <b>IsMetadataFor</b>       | indicates additional metadata A for a resource B   |
| Relation            | <b>IsNewVersionOf</b>      | indicates A is a new edition of B, where the new edition has been modified or updated                                    |
| Relation            | <b>IsPreviousVersionOf</b> | indicates A is a previous edition of B   |
| Relation            | <b>IsPartOf</b>            | indicates A is a portion of B; may be used for elements of a series (recommended for discovery).                         |
| Relation            | <b>HasPart</b>             | indicates A includes the part B (recommended for discovery).   |
| Relation            | <b>IsReferencedBy</b>      | indicates A is used as a source of information by B  |
| Relation            | <b>References</b>          | indicates B is used as a source of information for A   |
| Relation            | <b>IsDocumentedBy</b>      | indicates B is documentation about/ explaining A   |
| Relation            | <b>Documents</b>           | indicates A is documentation about/B   |
| Relation            | <b>IsCompiledBy</b>        | indicates B is used to compile or create A   |
| Relation            | <b>Compiles</b>            | indicates B is the result of a compile or creation event using A   |
| Relation            | <b>IsVariantFormOf</b>     | indicates A is a variant or different form of B, e.g. calculated or calibrated form or different packaging               |
| Relation            | <b>IsOriginalFormOf</b>    | indicates A is the original form of B  |
| Relation            | <b>IsIdenticalTo</b>       | indicates that A is identical to B, for use when there is a need to register two separate instances of the same resource |
| Relation            | <b>IsReviewedBy</b>        | indicates that A is reviewed by B  |
| Relation            | <b>Reviews</b>             | indicates that A is a review of B  |
| Relation            | <b>IsDerivedFrom</b>       | indicates B is a source upon which A is based  |
| Relation            | <b>IsSourceOf</b>          | indicates A is a source upon which B is based  |
| <b>Type</b>         |                            | <a href="#">Is indicated in the work you want to reference here</a>  |
| <b>Identifier</b>   |                            | <a href="#">Please enter the identifier as free text</a>   |