

# Research data policy

of the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB)

## Preamble

The vision of IGB is to engage in interdisciplinary research to achieve an understanding of the processes that shape the structure and functioning of water bodies and their biota. Our research findings help to address global environmental changes and to develop measures for sustainable water management. To this end, we generate objective and evidence-based knowledge for the conservation and management of inland waters and to make it publicly available.

With this research data policy, IGB would like to provide its researchers with principles for the archiving and sustainable publication of research data. For IGB, the availability of research data and its documentation is fundamental to maintaining high quality research and scientific integrity. This includes managing, storing, preserving and making research data available in the long term according to recognised standards.

All IGB staff are required to process research data generated in the course of their scientific activities in accordance with the established regulations or standards in their respective fields. IGB recognises the collection and publication of research data as an independent scientific achievement due to its genuine added value. IGB supports all members of IGB in the handling of research data and provides structural and financial resources to fulfil this obligation.

This policy refers in particular to the recommendations of the German Council of Science and Humanities (2012)<sup>1</sup> and the German Rectors' Conference (2014)<sup>2</sup>. It is based on the Leibniz Association's Guidelines for Handling Research Data<sup>3</sup>, the DFG Code of Good Scientific Practice<sup>4</sup> and the Leibniz Association's Guidelines for Scientific Integrity<sup>5</sup>. These are

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<sup>1</sup> Wissenschaftsrat (2012): Empfehlungen zur Weiterentwicklung der wissenschaftlichen Informationsinfrastrukturen in Deutschland bis 2020 [https://www.wissenschaftsrat.de/download/archiv/2359-12.pdf?\\_blob=publicationFile&v=1](https://www.wissenschaftsrat.de/download/archiv/2359-12.pdf?_blob=publicationFile&v=1)

<sup>2</sup> Hochschulrektorenkonferenz (2014): Management von Forschungsdaten – eine zentrale strategische Herausforderung für Hochschulleitungen [https://www.hrk.de/fileadmin/migrated/content\\_uploads/HRK\\_Empfehlung\\_Forschungsdaten\\_13052014\\_01.pdf](https://www.hrk.de/fileadmin/migrated/content_uploads/HRK_Empfehlung_Forschungsdaten_13052014_01.pdf)

<sup>3</sup> Leibniz Association (2018): Guidelines on the Handling of Research Data within the Leibniz Association [https://www.leibniz-gemeinschaft.de/fileadmin/user\\_upload/Bilder\\_und\\_Downloads/Forschung/Open\\_Science/Leitlinie\\_Forschungsdaten\\_2018\\_EN.pdf](https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/Forschung/Open_Science/Leitlinie_Forschungsdaten_2018_EN.pdf)

<sup>4</sup> Deutsche Forschungsgemeinschaft (2022): Codex "Guidelines for Safeguarding Good Research Practice" [https://www.dfg.de/en/research\\_funding/principles\\_dfg\\_funding/good\\_scientific\\_practice/](https://www.dfg.de/en/research_funding/principles_dfg_funding/good_scientific_practice/) [accessed 30.08.2023] and <https://doi.org/10.5281/zenodo.6472827>

<sup>5</sup> Leibniz Association: Leibniz Integrity <https://www.leibniz-gemeinschaft.de/en/about-us/leibniz-integrity> [accessed 30.08.2023]

supplemented by the institute-specific rules on good scientific practice<sup>6</sup> and the guidelines on handling environmental field data<sup>7</sup>. This policy is also based on the Leibniz Association's Open Science mission statement for open research<sup>8</sup>.

## 1. Definitions

A **data management plan** (DMP) structures the handling of research data in a scientific project. It describes how to deal with the data during and after the end of a project. The DMP contains all information describing and documenting the collection, as well as processing, storage, archiving and publication of research data. The DMP can be a living document that may be updated during a given project.

The **FAIR principles**<sup>9,10</sup> comprise four goals: findability, accessibility, interoperability and re-usability of data, metadata, software and services for humans but also for machines.

**Researchers** are all members of IGB who are active in research. This includes also persons who do not directly belong to IGB but use its facilities for their research projects, such as visiting researchers and cooperation partners.

**Research data** includes all data generated in the course of the research process. This includes for example, measurement data, laboratory results, audiovisual information, texts, survey results, objects from collections, methodological test procedures or simulations, and source code or protocols. The range of data types reflects the diversity and methodological development of the scientific disciplines and research procedures at IGB.

**Research data management (RDM)** comprises the planning, collection, processing, documentation, and storage of research data. It allows access, re-use, reproducibility and quality assurance of all research data.

**Metadata** contains structured information about the data or resources and their characteristics. It is stored independently of, or together with, the data it describes in detail. In order to increase the usability of metadata, its standardisation is absolutely necessary. In this way, metadata from different sources can be linked and processed together.

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<sup>6</sup> Resolution on safeguarding “Good Scientific Practice” at the Leibniz-Institute of Freshwater Ecology and Inland Fisheries within the Forschungsverbund Berlin e.V. (2019) <https://www.igb-berlin.de/sites/default/files/media-files/download-files/gwp2019en.pdf>

<sup>7</sup> IGB data policy for environmental field data (2016) <https://www.igb-berlin.de/sites/default/files/media-files/download-files/IGB%20data%20policy%20for%20environmental%20field%20data%202016.pdf>

<sup>8</sup> Leibniz Association (2022): Leibniz Open Science Policy [https://www.leibniz-gemeinschaft.de/fileadmin/user\\_upload/Bilder\\_und\\_Downloads/Forschung/Open\\_Science/Open\\_Science\\_Policy.pdf](https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/Forschung/Open_Science/Open_Science_Policy.pdf)

<sup>9</sup> FORCE11 <https://www.force11.org/group/fairgroup/fairprinciples> [accessed 30.08.2023]

<sup>10</sup> GO FAIR <https://www.go-fair.org/fair-principles/> [accessed 30.08.2023]

## 2. Rights

For all research data collected at IGB, the legal provisions and rights of the existing copyright, usage, privacy and exploitation policies apply. If the specific research is funded by third parties and the underlying funding agreement contains special provisions on research data management, these provisions shall take precedence over the regulations stated in this policy. The ownership of the rights of use is governed by the existing regulations between the researchers and IGB<sup>6</sup>.

## 3. Handling of Research Data

The integrity of research data must be ensured by storing it correctly, completely, and unadulterated. This must be accompanied by a complete, standardised and machine-readable metadata documentation that is likewise stored in a reliable manner. IGB supports and promotes open access to research data. In accordance with intellectual property rights, and provided that no third-party rights, legal regulations or other property rights prohibit it, it is recommended that research data be made available and appropriately licensed<sup>11,12</sup> to enable use of the data in accordance with FAIR principles. Published data should be provided with persistent identifiers (e.g. DOI). Citation rules (software and data citation principles) should be observed and requirements regarding the publication and use of research data should be adhered to<sup>6</sup>.

Research data that substantiates research results or form the essential basis of published findings should be stored in a repository or archiving system. The institute's own repositories such as IGB-FRED (<https://fred.igb-berlin.de/>) and IGB-GeoNode (<https://geo.igb-berlin.de/>) are available for this purpose. Research data can also be stored in other external repositories. These should comply with FAIR principles, guarantee long-term archiving and be listed in the Registry of Research Data Repositories (re3data)<sup>13</sup>. If there are confidentiality or non-disclosure concerns, equivalent archiving solutions should be implemented. Regardless of the storage location, metadata should be deposited on IGB-FRED to ensure that the data can be found. Preferably, free and open standard formats are to be chosen for the format of the data in order to facilitate interoperability and to ensure long-term readability. Documentation of the software used or created together with the data is recommended to promote reproducibility of research results.

Researchers should determine, within the legal framework, at what point archived research data is made publicly available. Research data on which a publication<sup>14</sup> is based should be archived for the long-term. The duration should be at least ten years from the date of

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<sup>11</sup> For licensing in general see <https://forschungsdaten.info/themen/rechte-und-pflichten/forschungsdaten-veroeffentlichen/> [accessed 30.08.2023]. For Creative Common licenses see <https://creativecommons.org/> and <https://opendatacommons.org/licenses/> [accessed 30.08.2023]

<sup>12</sup> Intranet Leibniz-Institut für Gewässerökologie und Binnenfischerei im Forschungsverbund Berlin e .V. (2022) <https://intranet.igb-berlin.de/display/datamanagement/Open+data+in+GeoNode+and+FRED> [access only possible internally at IGB]

<sup>13</sup> Registry of Research Data Repositories <https://www.re3data.org> [accessed 30.08.2023]

<sup>14</sup> See also Open Access Policy of the Leibniz Institute of Freshwater Ecology and Inland Fisheries (2019) [https://www.igb-berlin.de/sites/default/files/media-files/download-files/2020-01-13\\_OA-Policy\\_EN.pdf](https://www.igb-berlin.de/sites/default/files/media-files/download-files/2020-01-13_OA-Policy_EN.pdf)

publication, or as long as required by intellectual property rights or the requirements of research funders under applicable legal and contractual provisions. IGB adheres to the policy to permanently archive and preserve data of long-term significance (e.g. data from long-term monitoring). Processes for (institute internal and external) data exchange and practical guidelines will be defined in a separate document ("Data Policy FAQ" in the IGB intranet<sup>15</sup>).

## 4. Responsibilities

Responsibility for the management of research data generated within the framework of a project or in the course of fulfilling specialist tasks lies with the respective project leader, research group leader or, where appropriate, the scientist responsible. The responsible party ensures that the principles and requirements of this policy are met when handling research data. Resulting tasks (e.g. maintenance of a data management plan) can be delegated to a data manager involved in the project.

Researchers should create a data management plan (see definitions) for each research project and maintain it during the course of the project (a so-called "living document") in order to ensure the preservation of the data beyond the research project. This includes the definition of contact persons, rights of use and exploitation after the end of the project, the allocation of appropriate licences, and data storage and archiving.

IGB offers training measures on general data management and on the handling of subject-specific repositories in order to promote the adequate handling of research data and to impart subject-specific competencies and standards. The training courses should be available to all IGB members, especially students and doctoral candidates, and should be offered on a regular basis. Research group leaders are responsible for participation.

IGB supports data managers or those responsible for data management and provides adequate resources for staff and staff training, services and research data infrastructures (e.g. institutional repositories), thus ensuring appropriate storage and technical availability of research data.

Those responsible for data management at IGB provide support, for example, in the creation of data management plans, and technical as well as organisational advice. This is done in accordance with the current guidelines, contracts with third-party funders, internal by-laws, codes of conduct and other relevant guidance documents.

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<sup>15</sup> Intranet Leibniz-Institut für Gewässerökologie und Binnenfischerei im Forschungsverbund Berlin e.V. (2023) <https://intranet.igb-berlin.de/display/datamanagement/Data+Policy+FAQ> [access only possible internally at IGB]

## 5. Validity

This policy goes into effect on 01.10.2023 and will be updated as required.

For questions regarding Research Data Management, please contact the appropriate responsible person as described above, or the CTP Research Data Management<sup>15</sup>. For questions regarding this document, please contact [data@igb-berlin.de](mailto:data@igb-berlin.de).