

## IGB data policy for environmental field data

### Motivation

The IGB holds a tremendous amount of **environmental field data**. These include long-term records of physical and water-chemical variables as well as biological data such as phytoplankton, zooplankton and bacterioplankton abundance, community structure, productivity and activity in multiple lakes and rivers. At some locations, comprehensive data on fish, macrophytes and benthic macroinvertebrates are also available. These data are or shall be managed in a central IGB database (IGB DB). The objective is to guarantee protection, use and reusability of the data in the future both within and beyond IGB. IGB considers environmental field data an asset deserving protection as a basis for future research, evidence-based freshwater ecosystem management and political outreach. The IGB database will serve as a subunit of an international data and information platform, especially in the realm of biodiversity research. The data are made available for academic, research, educational and other not-for-profit professional purposes (e.g. conservation, environmental policy). Priority is given to members of the IGB. Commercial use is not envisaged. The reusability of scientific environmental field data has the potential to greatly increase collaboration and synthesis within and among disciplines. While extensive use of the data in the IGB database is encouraged, all data users at and outside of IGB are asked to read and abide to the IGB Data Policy Rules as described below, and to adhere to the principles of 'Good Scientific Practices' issued by the German Research Council (DFG).

### Scope

The data policy applies to environmental field data of the following type:

- Data from IGB's **Long Term Ecological Research** programmes in Arendsee, Müggelsee, Lake Stechlin, and the River Spree, including *in situ* measurements by automatic sensors, chemical analyses, plankton, fish, macrophytes, macrozoobenthos and other regularly measured parameters
- **Project-related data** from comprehensive environmental field observations or data from large field experiments (e.g. LakeLab), which can include *in situ* measurements by automatic sensors, chemical analyses, plankton, fish, macrophytes, macrozoobenthos etc.

All abiotic and biological data from IGB's core **long-term research** program (past – present – future) and all abiotic and biotic field data related to **large projects or additional comprehensive monitoring efforts** are stored in the IGB database- according to the project-specific data policies and agreements with external parties (see paragraph “project data” below). This applies to projects starting in 2016.

For the long-term program, the following contact persons (PIs) are responsible:

Arendsee:	Michael Hupfer
Müggelsee:	Rita Adrian
Lake Stechlin:	Mark Gessner
River Spree:	Jan Köhler

The PIs of the projects providing data to the IGB database are responsible for importing metadata and data into the IGB database. At least one IGB senior scientist needs to assume responsibility for these project data to guarantee reusability of the data once the project members have left the IGB. The responsibility is passed on to another IGB senior scientist should the scientist in charge leave the institute.

## Metadata information

Each data set in the IGB database is accompanied by detailed metadata text documentation, but it is recommended that prospective data users contact the responsible PI of each dataset for further information. The IGB database requires **metadata information** at least about the **where, when, how** and **who** in order to be able to upload data. This includes information on sampling, sample processing, methodology, names of data processors, and the responsible contact person (PI). All metadata will be publicly available on the IGB homepage - regardless of any possible restrictions to access the actual data. Metadata information also includes information on quality control routines that have been performed, such as the kind of raw data modifications or quality checks applied (e.g. removal of outliers according to specified criteria).

## Data policy rules

**Long-term data:** All long-term data are made accessible to IGB scientists for academic, research educational and similar professional not-for-profit purposes (see above). Prior to the use of IGB “internal open access” data, prospective data users contact the responsible PI to agree on the goals and scope of the data use and discuss potential collaborations and modes of operation, including joint publications, and they also agree on the team members and potential co-authors of any resulting publications. The same rule applies to external data users who need explicit written permission from the responsible PI to get access to the requested data. Professional

ethics require that the work of other scientists and other IGB staff members involved in the data collection, processing and/or quality control are appropriately acknowledged in any products that result from the data use (e.g. publications, presentations). The data user makes a commitment to follow this principle.

Data sharing with international colleagues is encouraged to support international co-operations. The data users commit not to redistribute the original or any derived data to third parties beyond the agreed scope of the agreement made with the responsible PI. Any other interested user of the data set or its derived products requires separate explicit permission in writing from the responsible PI. Names and contact information of the responsible PI are given in the metadata information.

In rare cases, access rules for data compiled as part of the IGB long-term program can also be individually defined. However, justification for these exceptions must be documented by the PI and the Director of the IGB.

**Project data:** The accessibility of project environmental data follows project-specific data policies. Those shall be formulated at the beginning of each project and are preferably based on the principles adopted for the IGB long-term data. It is also suggested that project-specific environmental data policies include specified dates beyond which the data become accessible to IGB members and external parties.

## **Disclaimer**

While substantial efforts are made to ensure the accuracy of all data and the metadata documentation, complete accuracy cannot be guaranteed. It is the responsibility of each data user to assess the data quality. All data are made available "as is." Data users should also be aware that data sets are periodically updated. Data providers shall not be liable for any damages or other consequences resulting from any use or interpretation of the data sets.

Approved by the IGB Board of Directors, May 13th 2016