

LTER Europe Network Data Sharing Policy (DSP)

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1. Philosophy

European Long-Term Ecosystem Research Network (LTER-Europe) is an essential component of worldwide efforts to better understand ecosystems. This comprises their structure, functions, and response to environmental, societal and economic drivers as well as the development of management options. Sharing of data in the absence of policies that mandated attribution is unsound. The common data sharing policy secures data free of charge and supports easy access to data from the networks of LTER sites and LTSER areas for the research community.

LTER-Europe common DSP should bring several benefits to partners, significantly:

- increases the research capacity of the involved research institutions;
- increases the capacity for interdisciplinary research;
- increases the rate of success in future research programmes;
- helps compliance with the EC's INSPIRE Directive and the future initiative for a European Shared Environmental Information System (SEIS), which makes other data sources accessible.

Indicators of success:

- number of partners with accessible updated databases (biodiversity, socio-economic data);
- number of research projects based on two or more databases from different institutions.

2. LTER Europe Network Data Release Policy

Data are located in distributed databases at the ALTER-Net institutes. To create awareness in the research community and facilitate information about available data a set of standardised metadata is established and applied in ALTER-Net using the LTER-Europe InfoBase. The set of meta information will be maintained, regularly updated and further developed. Specific data from a LTER site or a LTSER area are made available free of charge to the research community by the institution hosting the specific site.

3. LTER-Europe data and metadata

Data as well as metadata are managed by the different sites and platforms and often the use of research and monitoring data is hampered by technical difficulties, legal difficulties and difficulties in the harmonisation of the contents. Although the aspect of data sharing is widespread in the field of science a lot efforts are taken to get the

data and transform them to fit your own needs. A major challenge for a network like LTER-Europe arises from the distributed nature of its infrastructure and data. Due to this heterogeneity and operational aspects, it was decided to integrate data and databases by means of a common ontology covering any kind of object investigated by LTER and all measured properties of these objects (parameters) across domains.

Data

The InfoBase metadata analysis provided several interesting and important indicators which outlined possible suitable steps towards functional and applicable data sharing policy. According to the InfoBase:

- 96,48 % of data is available in digital format, of which
 - 53,77 % stored in databases;
 - 42,71 % are GIS data;
- 2,17 % is stored in spreadsheets, papers and ASCII format;
- 1,36 % is unknown or error;

So far, at least 3,52 % of data reported in InfoBase are not digitally accessible.

The crucial part of DSP is the access to data. Analysis of InfoBase metadata showed various accesses to data reported:

- 75,28 % *controlled*;
- 12,61 % *open*
- 0,25 % *partly open*
- 9,77 % *limited*
- 2,1 % unknown or error.

However, perception and understanding of terms *limited*, *controlled*, *open*, or *partly open* could be different by the particular institution.

Metadata

As mentioned above, metadata are stored in regularly updated tool InfoBase. All metadata follow LTER-Europe recommended standards and contain adequate information on site platforms, data sources, administration, management, usage, research environment, research questions, networks, habitat characteristic, parameters, sampling structure and contact person.

4. LTER-Europe network data access requirements

- a) Provide and maintain metadata information in the agreed standardised format including information of the quality status of the accessible data; check and update tool InfoBase;
- b) Provide internet links to databases and guidance;
- c) Provide appropriate registration form, which allows the LTER-Europe to track data usage and to confirm that the data user agrees to the Terms of Use and agrees to cite data appropriately.

Proposal of the registration form:

1. Name
2. Affiliation
3. Email Address
4. Full Contact Information
5. Acceptance of the General Public Use Agreement or Restricted Data Use Agreement, as applicable
6. A Statement of Intended Use, which is compliant with the above agreements.

- d) Establish possibility for ALTER-Net institute employees to get access to databases, free of charge;
- e) Description of the interfaces to databases;
- f) Short English guidance on how to download data from databases/how to use web-interfaces and related applications;
- g) If necessary make some minor adjustments in interface and database (English parameters and menus).

The registration should be sent and recorded also by the Secretariat of LTER-Europe (via e-mail).

5. LTER-Europe general data use agreement

LTER-Europe will follow International LTER (ILTER) definitions. The re-use of scientific data has the potential to greatly increase communication, collaboration and synthesis within and among disciplines, and thus is fostered, supported and encouraged.

Definitions

<i>Data Set</i>	digital data and its metadata derived from any research activity such as field observations, collections, laboratory analysis, experiments, or the post-processing of existing data and identified by a unique identifier issued by a recognized cataloguing authority such as a site, university, agency, or other organization
<i>Data User</i>	individual to whom access has been granted to this <i>Data Set</i> , including his or her immediate collaboration sphere, defined here as the institutions, partners, students and staff with whom the <i>Data User</i> collaborates, and with whom access must be granted, in order to fulfil the <i>Data User's</i> intended use of the <i>Data Set</i>
<i>Data Set Creator</i>	individual or institution that produced the <i>Data Set</i>
<i>Data Set Owner</i>	individual or institution that holds intellectual property rights to the dataset. Note that this may or may not be defined as a legal copyright. If no other party is

designated in the metadata as *Data Set Owner*, it may be presumed that these rights are held by the *Data Set Creator*.

Data Set Distributor
Data Set Contact

individual or institution providing access to the *Data Sets* party designated in the accompanying metadata of the *Data Set* as the primary contact for the *Data Set*

Conditions of Use

Permission to use this dataset is granted to the Data User free of charge subject to the following terms:

Acceptable use.

Use of the dataset will be restricted to academic, research, educational, government, recreational, or other not-for-profit professional purposes. Any other uses for the *Data Set* or its derived products will require explicit permission from the dataset owner.

Redistribution.

The data are provided for use by the *Data User*. The metadata and this agreement must accompany all copies made and be available to all users of this *Data Set*. The *Data User* will not redistribute the original *Data Set* beyond this collaboration sphere.

Citation.

It is considered a matter of professional ethics to acknowledge the work of other scientists. Thus, the *Data User* will properly cite the *Data Set* in any publications or in the metadata of any derived data products that were produced using the *Data Set*. Citation should take the following general form: *Creator, Year of Data Publication, Title of Dataset, Publisher, Dataset identifier, URL, Date of dataset access.*

Acknowledgement.

The *Data User* should acknowledge any institutional support or specific funding awards referenced in the metadata accompanying this dataset in any publications where the *Data Set* contributed significantly to its content. Acknowledgements should identify the supporting party, the party that received the support, and any identifying information such as grant numbers.

Notification.

The *Data User* will notify the *Data Set Contact* when, any derivative work or publication based on or derived from the *Data Set* is distributed. The *Data User* will provide the data contact with two reprints of any publications resulting from use of the *Data Set* and will provide copies, or on-line access to, any derived digital products. Notification will include an explanation of how the *Data Set* was used to produce the derived work.

Collaboration.

The *Data Set* has been released in the spirit of open scientific collaboration. *Data Users* are thus strongly encouraged to consider consultation, collaboration and/or co

authorship with the *Data Set Creator*.

By downloading this *Data Set*, the *Data User* agrees to abide by the terms of this agreement. The *Data Owner* shall have the right to terminate this agreement immediately by written notice upon the *Data User's* breach of, or non-compliance with, any of its terms. The *Data User* may be held responsible for any misuse that is caused or encouraged by the *Data User's* failure to abide by the terms of this agreement.

6. Agreed partner commitments

ALTER-Net partners commit their institutions to adopt the LTER-Europe common Data Sharing Policy.

7. Future co-ordination and management requirements

Co-ordination work, including development of an implementation plan, will be done by the secretariat, taking into account developments with InfoBase (Alter-NET Memorandum of Understanding Annex 5) and LifeWatch (Alter-NET Memorandum of Understanding Annex 6).

8. Questionnaire - Enquiring LTER people about existing data policy

1. Are you familiar with tool InfoBase?
 2. If yes, are your LTER metadata recorded in InfoBase?
3. Does each your LTER site or LTSER platform has own database?
 4. If yes, is it managed?
 5. If not, how are these LTER site or LTSER platform data stored and managed?
6. Do you have LTER databases which are owned and managed by more than 1 institution?
7. Do you have special staff – data managers employed or the databases are managed by scientific or technical staff of your institute?
8. Do you have some experiences with data sharing?
 - If yes, are they positive or negative?
9. Do you have (your institute or organisation) data sharing policy?
10. Do you have data management policy for LTER sites or LTSER platforms?
 - If yes, please describe it in a few sentences!
11. In InfoBase, there are mentioned several categories according to the access to data. Please, could you specify what you perceive under *limited*, *controlled*, *open* or *partly open* access?
12. Do you have very sensitive data, which you consider as *unsharable*?

13. What do you think about *reward system* – impact of data sharing on the rights of authors (e.g. acknowledgements.)?

14. What is your opinion about sentence: *data collectors should be included as co-authors?*

15. Did you use or did you meet *Data use agreement* and *Investigator Intellectual Property Rights Protection* in the former times?

If yes, please write a few sentences!

16. Are you able and oblige to change or modify your database (data formats, software) in the case of agreed common data sharing policy?

Sources

<http://www.ilternet.edu>

<http://www.lter-europe.net>

Memorandum of Understanding governing the continuation of ALTER-Net from April 2009

InfoBase tool

Michener, W.K., Brunt, J.W. (eds.), 2000: *Ecological Data. Design, Management and Processing Ecological Methods and Concepts*. Softcover, 192 pp.