



ILTER InfoBase



# Field description LTER InfoBase

Draft Version 0.3  
2010-05-26

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### Status

Version	Date	Author	Notes
0.1	2008-01-09	Peterseil	Document creation
0.2	2008-01-14	Magagna	Document review and completion
0.3	2010-05-26	Peterseil	Update of the new LTER InfoBase structure



## 1. Introduction

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In the following the structure of the questions asked and the information needed about sites will be presented. This document could be understood as a handbook for the content of the LTER InfoBase.

### 1.1. Goal of the LTER InfoBase

The aim of the LTER InfoBase is to collect the site level metadata of the relevant sites for LTER and LTER related research in Europe. There are several existing meta-databases, but none of them can directly be used for this purpose. In a first run the data from existing data sets were collected and completed. In a second run, which is performed now, the meta-information about the sites should be provided in more detail.

For this purpose a tool was created to collect this information from the site managers in a simple and flexible manner.

#### **WHERE TO FIND:**

**Tool** for the metadata entry and update can be downloaded at

- ⇒ <http://www.lter-europe.net/document-archive/miscellaneous-files/infobase/setup%20Infobase%201.3.1.zip>.

**Current version of the metadata** can be downloaded at

- ⇒ <http://www.lter-europe.net/document-archive/miscellaneous-files/infobase/InfoBase-20100526.zip>.

The metadata can be **accessed via web**

- ⇒ <https://secure.umweltbundesamt.at/eMORIS/>.

### 1.2. Basic structure

The basic information is concentrated on the sites, which is reflected on the structure of the tables in InfoBase. The main table for the sites is the 'Site-Platforms' table, which classifies the sites into complex and simple ones, all other tables starting with the term 'Site\_' e.g. 'Site\_Administration' in its labels provide additional information with different focuses (about databases, references, research questions, characteristic habitats, measured parameters, networks, research infrastructure, sampling structure – see fig. 1). In addition the table describing actors exists.

In its simplest form, metadata can be seen as a list of notes describing the data. While this list may be quite complete, it will be difficult for somebody else to find the relevant information. In order to know exactly how the data was assessed, one usually still needs to consult with the data originator. This is frustrating and raises the question of why one should establish a metadata system when one still has to consult the owner for proper use of the data. For automated data discovery and retrieval systems and for automatic modeling applications it is fairly useless, as while a human can read the individual facts and figure out what they pertain to, a machine cannot know if a specific entry refers to a method, a parameter, a location....

The central concept of the meta data collection in the LTER InfoBase is the **"site/platform"** on the one hand and the **"investigated item"** on the other. Both form the structure of the metadata. In contrary to other more descriptive metadata



approaches, e.g. EML on the meta data level, the meta information is provided on the level of detail on which it is needed. The metadata are divided into objects which are then described by the meta information provided.

The site/platform refers to the upper entity which is a defined area in time and space where the observation takes place. This can be either a whole study area which consists of several sub observation sites like an LTSEr platform or just of one LTER site in the classical sense of the definition. The site/platform is the central concept on which all other metadata is assigned to.

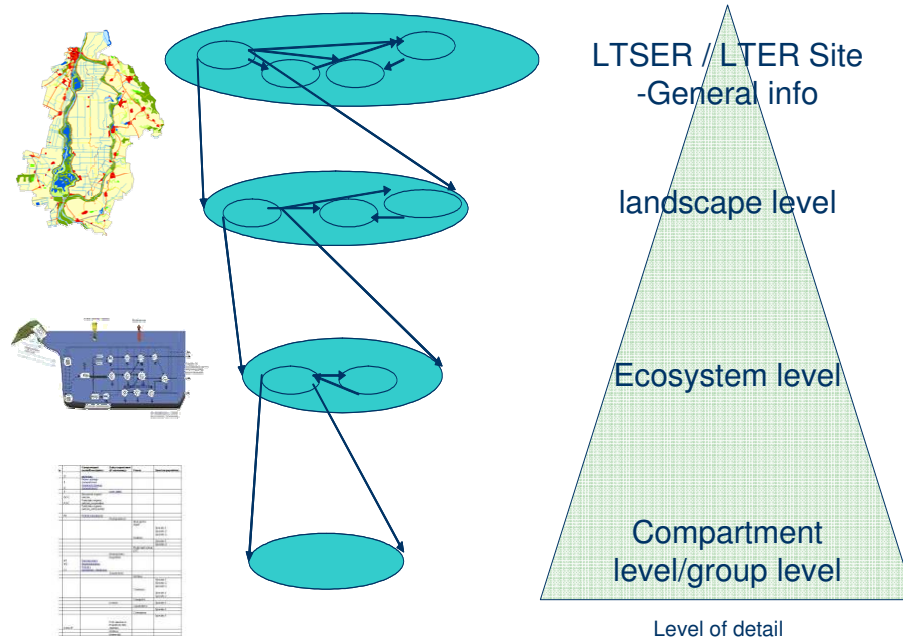
**Figure 1 Overview about the Meta data groups of the LTER InfoBase Approach**

This ranges from the location and administrative information to the description of the observations taken at different compartments of the site/platform.

Within the site/platform the observed entities are structured by using the concepts of the "investigated item" (also referred to as "entity of observation"). This concept reflects the investigated ecosystem compartments (in a structural and/or functional sense) which were investigated in the field ranging from ecosystem complexes (e.g. landscapes) to parts of ecosystems (e.g. the soil compartment). Meta information about the observations made are assigned to this level.

**Figure 2 Conceptual model for identification of terrestrial and aquatic ecosystems (modified after Vadineanu, 2001) in a functional sense.**

The concepts used can be combined together in a hierarchical manner. By using this approach a net of investigated compartments can be described and used for providing the meta information on the site or platform. This information ranges from the compartment level to the site/platform level (see Figure 3).



**Figure 3 Linking different observation levels in the LTER InfoBase Approach by using an object oriented meta data approach.**

The fields of the metadata collection are described at the ALTER-NET WIKI in the InfoBase section (see <http://www5.umweltbundesamt.at/ALTERNet/index.php?title=Content>). There also a pdf-document with a short description of the fields and contents together with small examples can be found.

## 2. Meta data fields and structure of the tables

The following text describes the metadata fields for the LTER InfoBase.

Some of the fields must use predefined **reference lists**, their labels start with 'tree' like for example 'treeSites' listing all sites and platforms. The respective entry is taken from the list. New entries have to be attached to the respective reference list before they can be chosen from the list. The reference list can also reflect a hierarchy between the entries if so defined, grouping them into different classes. Be sure to choose an element from the lowest level of the hierarchy. New hierarchies and entries can be added by the user using the buttons 'new child' to add a record under an existing entry (which becomes then a class with sub entries) or 'new sibling' to add a new record beside of existing ones. Existing entries are not editable or erasable with the InfoBase tool. Some of the entries (whose icons show a transparent book) are however moveable, but not up to the highest level (all these changes are only possible in the database itself).

The following field is present in all site-related tables:

- DataSet:** LTER site or platform according to the reference list.
- Usage:** reference list  
In the reference list *treeDataSets* the sites and platforms and the structure of the platforms are listed. They are grouped by the country of the site.
- Example:** Zöbelboden (AT01)

**Field\*:** optional fields (in case of latitude and longitude only if GIS data of dataset exists) are marked with an asterisk.

## 2.1. 01Site\_Platforms

This metadata section consists of data about the location and the inner characteristic of the site or platform. It is the central list of the site or platforms within the LTER InfoBase.

Field	Value	Action
<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> Identifier	SI000049	Clear
<input type="radio"/> Short_Name	Zöbelboden_MasterSite	Clear
<input type="radio"/> Long_Name	Zöbelboden_LTER_IM_master_site (ICP_IM_AT01)	Clear
<input type="radio"/> LTER_EU_Site_Code	LTER_EU_AT_003	Clear
<input type="radio"/> LTER_Site_Type	Simple Site	Clear
<input type="radio"/> Loc_Country	Austria	Clear
<input type="radio"/> Desc_Description	UNECE ICP Integrated Monitoring site	Clear
<input type="radio"/> Desc_Website	www.umweltbundesamt.at/im	Clear
<input type="radio"/> Size_ha		Clear
<input type="radio"/> Num_of_items	0	Clear

**Identifier:** Identifier of the site or platform. This is the identifier according to the underlying MORIS database. This code is generated automatically when the data are entered in the central database. The code consists of a prefix "SI" and a unique serial number for the site.

Usage: Text

Example: SI000356

**Short\_Name:** Short name of the site or platform. This is, if the LTER sites are listed in different research or monitoring networks by code or a short name for the site.

Usage: Text

Example: ICP\_IM\_AT01

**Long\_Name:** Long name of the LTER site or platform according to the reference list.

Usage: reference list

In the reference list *treeSites* the sites and platforms and the structure of the platforms are listed. They are grouped by the country of the site.

Example: Zöbelboden (AT01)

**LTER\_EU\_Site\_Code:** Code according to the site list of LTER Europe. The code consists of the prefix "LTER\_EU\_", the country code (e.g. AT), and a serial number within the country.

Usage: Text

Example: LTER\_EU\_AT\_006

**LTER\_Site\_Type:** Type of the site of platform according to their inner heterogeneity. *Simple sites* are classical LTER sites measuring ecosystem processes in one or a very limited number of habitats. *Complex sites* are classical LTER sites investigating processes and fluxes on a landscape or

- regional level or from the bracket over a number of LTER or simple sites.
- Usage: reference list  
in the reference list *treeSiteTypes* the different options are listed.
- Example: Simple Site
- Loc\_Country:** Country in which the site or platform is situated
- Usage: reference list  
in the reference list *treeCountries* the countries are listed.
- Example: Austria
- Desc\_Description\*:** Short textual description of the site or platform.
- Usage: Text  
Example: ...
- Desc\_Website\*:** Indicates the web site, where more information can be found about the site or platform.
- Usage: Text  
Example: [http://www.umweltbundesamt.at/en/umweltschutz/oekosystem/im/zoebelboden\\_standort/](http://www.umweltbundesamt.at/en/umweltschutz/oekosystem/im/zoebelboden_standort/)
- Size\_ha:** Size of the site or platform in hectare
- Usage: Number (Double)  
used without millennia separator
- Example: 5000
- Num\_of\_items:** If the metadata entry reflects a group of observation entities, e.g. plots etc., the number of items can be given. By default the value is one if only the site is described.
- Usage: Number (Integer)  
Example: 1

## 2.2. 01Site\_Platforms\_Char\_BioReg

This metadata section consists of data about the assignment of the site/platform to different classifications, e.g. the biogeographical region.

<input checked="" type="checkbox"/> 01Site_Platforms <input checked="" type="checkbox"/> 01Site_Platforms_Char_BioReg <input checked="" type="checkbox"/> 01Site_Platforms_Char_Climate		
<input checked="" type="radio"/> DataSet	Zobelboden_MasterSite	Clear
<input type="radio"/> Char_Biogeographic_Reg	Alpine	Clear
<input type="radio"/> Focal_Ecosystem	Forest	Clear
<input type="radio"/> Focal_Landscape		Clear
<input type="radio"/> FocEcosys1	/N	Clear
<input type="radio"/> FocEcosys2	/N	Clear
<input type="radio"/> FocEcosys3	/N	Clear
<input type="radio"/> Char_EnvironZone	Error: Code 192 not found in tree	Clear
<input type="radio"/> Char_EconDensity	Error: Code 182 not found in tree	Clear
<input type="radio"/> Char_EnZ_EconDens	62	Clear

**Char\_Biogeographic\_Region:** Bio-geographic region according to the classification of Europe according to bio-geographic regions (EEA, XXXX).



Usage: reference list  
in the reference list *treeBiogeogRegions* the regions are listed. The list is according to the EEAs classification of the bio-geographic regions.

Example: Alpine

**Focal\_Ecosystem:** which ecosystem is targeted in the monitoring and/or research at the site/platform

Usage: Text

Example: Forest

**Focal\_Landscape:** which landscape type is targeted in the monitoring and/or research at the site/platform

Usage: Text

Example: Forest landscape

**FocEcosys1:** which ecosystem is targeted in the monitoring and/or research at the site/platform based on the IILTER classification – first priority

Usage: Text

Example: /N

**FocEcosys2:** which ecosystem is targeted in the monitoring and/or research at the site/platform based on the IILTER classification – second priority

Usage: Text

Example: /N

**FocEcosys3:** which ecosystem is targeted in the monitoring and/or research at the site/platform based on the IILTER classification – third priority

Usage: Text

Example: /N

**Char\_EnvironZone:** Environmental zone according to the classification of Europe of Metzger et al. 2005.

Usage: reference list

in the reference list *treeEnvironZones* the regions are listed. The list is according to the classification of Metzger et al. 2005.

Example: AlpineSouth (ALS)

**Char\_EconDensity:** Classification of the economic density of Europe according to Metzger et al. 2005.

Usage: reference list

in the reference list *treeEconDensity* the regions are listed. The list is according to the classification of Metzger et al. 2005.

Example: 4

**Char\_EnZ\_EconDens:** Combined classification of Environmental zone and Economic density according to the classification of Europe of Metzger et al. 2005.

Usage: Text

Example: 62

### 2.3. 01Site\_Platforms\_Char\_Climate

This metadata section consists of data about the assignment of the site/platform to different classifications, e.g. the biogeographical region.



<input checked="" type="checkbox"/> 01Site_Platforms_Char_BioReg <input checked="" type="checkbox"/> 01Site_Platforms_Char_Climate <input checked="" type="checkbox"/> 01Site_Platforms		
<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> Elevation_minimum	500	Clear
<input type="radio"/> Elevation_maximum	950	Clear
<input type="radio"/> Elevation_average	700	Clear
<input type="radio"/> Char_Prec_Min	200	Clear
<input type="radio"/> Char_Prec_Max	408,70001221	Clear
<input type="radio"/> Char_Prec_Sum	1106,69995117	Clear
<input type="radio"/> Char_Temp_Min	-1,86666667	Clear
<input type="radio"/> Char_Temp_Max	-1,86666667	Clear
<input type="radio"/> Char_Temp_Mean	7,3499999	Clear

**Elevation\_minimum\*:** Minimum altitude in m a.s.l. of the site or platform

Usage: Number (Double)

Example: 700

**Elevation\_maximum\*:** Maximum altitude in m a.s.l. of the site or platform

Usage: Number (Double)

Example: 950

**Elevation\_average:** Average altitude in m a.s.l. of the site or platform

Usage: Number (Double)

Example: 850

**Char\_Prec\_Min\*:** Minimum monthly sum of precipitation for the site or platform in mm.

Usage: Number (Double)

Example: 200

**Char\_Prec\_Max\*:** Maximum monthly sum of precipitation for the site or platform in mm.

Usage: Number (Double)

Example: 408

**Char\_Prec\_Sum:** Annual sum of precipitation for the site or platform in mm.

Usage: Number (Double)

Example: 1106

**Char\_Temp\_Min\*:** Monthly average temperature of the coldest month for the site or platform in mm.

Usage: Number (Double)

Example: -1.8

**Char\_Temp\_Max\*:** Monthly average temperature of the warmest month for the site or platform in mm.

Usage: Number (Double)

Example: 16

**Char\_Temp\_Mean:** Annual mean temperature for the site or platform in mm.

Usage: Number (Double)

Example: 5,6

## 2.4. 01Site\_Platforms\_Coordinates

This metadata section consists of the location of the site or platforms. In principal the centre coordinate is provided.

<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> Loc_Coordinate_Type	center coordinate	Clear
<input type="radio"/> Loc_DMS_X_ETRS89	014° 25' 59.988" E	Clear
<input type="radio"/> Loc_DMS_Y_ETRS89	047° 52' 00.012" N	Clear
<input type="radio"/> Loc_DEG_X_ETRS89	14.43333	Clear
<input type="radio"/> Loc_DEG_Y_ETRS89	47.86667	Clear
<input type="radio"/> Notes		Clear

**Loc\_Coordinate\_Type** Type of the coordinate (e.g. centre coordinate, no coordinate available, etc.)  
 Usage: reference list  
 see *treeCoordinateType*  
 Example: centre coordinate

**Loc\_DMS\_X\_ETRS89\***: Latitude in DMS (Degree minutes seconds) in geographic projection according to the datum ETRS89 of the centre point of the site or platform. This field is used for the description of the site  
 Usage: Text  
 if GIS data exist, the exact location should be extracted from this data otherwise the centre coordinate should be put in as degree, minutes and seconds.  
 Example: 47° 52' 00"N

**Loc\_DMS\_X\_ETRS89\***: Longitude in DMS (Degree minutes seconds) in geographic projection according to the datum ETRS89 of the centre point of the site or platform. This field is used for the description of the site  
 Usage: Text  
 if GIS data exist, the exact location should be extracted from this data otherwise the centre coordinate should be put in as degree, minutes and seconds.  
 Example: 14° 26' 00" E

**Loc\_DEG\_X\_ETRS89**: Latitude in degree in geographic projection according to the datum ETRS89 of the centre point of the site or platform. This field is used for the description of the site  
 Usage: number (double)  
 if GIS data exist, the exact location should be extracted from this data otherwise the centre coordinate should be put in as degree, minutes and seconds.  
 Example: 47,86667

**Loc\_DEG\_X\_ETRS89**: Longitude in degree in geographic projection according to the datum WGS84 of the centre point of the site or platform. This field is used for the description of the site  
 Usage: number (double)  
 if GIS data exist, the exact location should be extracted from this data otherwise the centre coordinate should be put in as degree, minutes and seconds.  
 Example: 14,43333



**Notes\*:** additional notes about the coordinates  
 Usage: text  
 Example: ...

## 2.5. 01Site\_Platforms\_Coordinates

This metadata section consists of the information about the status of the site or platform. This includes the date of establishment as well as the documentation status.

<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> LTER_Declaration_Stat	Formal LTER/LTSER	Clear
<input type="radio"/> LTER_Documentation_	Full documentation	Clear
<input type="radio"/> LTER_Site_Status	existing	Clear
<input type="radio"/> Admin_Established_in	01.01.1992	Clear
<input type="radio"/> Admin_Abandoned_in		Clear
<input type="radio"/> AdminNotes		Clear

**LTER\_Declaration\_Status:** The Declaration status of the site or platform describes if the site or platform is formally listed within the LTER Europe Network. This includes the following options:

Formal LTER/LTSER	<i>LTER site or LTSER platform which lies in a country which is formally member of LTER Europe and the site or platform is listed in LTER Europe</i>
Candidate LTER	<i>LTER Site or LTSER Platform which lies in a country which is not formally member of LTER Europe but would be listed as formal LTER/LTSER.</i>
Potential LTER	<i>LTER site which lies in a country which is formally member of LTER Europe but the site is not listed in LTER Europe</i>

Usage: reference list  
 see table *treeDecStatus*.  
 Example: Formal LTER/LTSER

**LTER\_Documentation\_Status:** The Documentation status of the site or platform describes if the site or platform the completeness of the metadata in the LTER InfoBase. This includes the following options:

First compilation	<i>first information on the site or platform. e.g. only names and contact person</i>
Basic documentation	<p><i>basic description of the site or platform, a) basic characteristics, b) administration, c) research topics, d) networks, e) habitat composition</i></p> <p><i>For the basic documentation of the LTER Sites and LTSER Platforms the following meta information need to be provided:</i></p> <p style="text-align: center;"> <i>01Site_Platforms        01Site_Platforms_Coordinate        01Site_Platforms_Status        02Site_DataSource        03Site_Administration        09Site_HabitatCharacteristics</i> </p> <p><i>And update the necessary information in the table</i></p>



	<i>12ContactPerson</i>
Full documentation	<p><i>full documentation of all metadata fields, including the information on observations</i></p> <p><i>For the full documentation of the LTER Sites and LTSER Platforms the following meta information need to be provided:</i></p> <p style="padding-left: 40px;"> <i>01Site_Platforms</i>  <i>01Site_Platforms_Coordinate</i>  <i>01Site_Platforms_Status</i>  <i>02Site_DataSource</i>  <i>03Site_Administration</i>  <i>04Site_DataManagement</i>  <i>05Site_DataUsage</i>  <i>06Site_ResearchEnvironment</i>  <i>07Site_ResearchQuestions</i>  <i>08Site_Networks</i>  <i>09Site_HabitatCharacteristics</i>  <i>10Site_Parameters</i> </p> <p><i>And update the necessary information in the table 12ContactPerson. As mandatory information the table 11Site_SamplingStructure can be filled out.</i></p>

Usage: reference list  
 see table *treeDocStatus*.  
 Example: Full documentation

**LTER\_Site\_Status:** The Site status of the site or platform describes the current status of the site, if it is existing or planned This includes the following options:

Preliminary	<i>site or platform is planned or concepts exist</i>
Existing	<i>site or platform exists</i>
Abandoned	<i>site or platform is abandoned</i>

Usage: reference list  
 see table *treeSiteStatus*.  
 Example: existing

**Established in:** year of establishment of the site or platform

Usage: Date/Time  
 Example: 1992

**Abandoned in:** year of abandonment of the site or platform

Usage: Date/Time  
 if no date is present the site or platform is still in use  
 Example: 1994

**AdminNotes\*:** additional notes about the status and management of the site

Usage: text  
 Example: ...

## 2.6. 02Site\_DataSource

This metadata section consists of the information about the source of the record of the site or platform in the LTER InfoBase. A lot of information was collected from existing metadata databases and meta information sources. The history of the metadata record can be tracked by this information.

<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> Source	www.umweltbundesamt.at	Clear
<input type="radio"/> Actor	Mirtl	Clear
<input type="radio"/> DateOfCheck	18.01.2008	Clear
<input type="radio"/> Note		Clear

**Source:** name of the source of the metadata record.

Usage: text  
if the record originates in another metadata database the name of the database is mentioned otherwise the relevant information.

Example: [http://www.umweltbundesamt.at/en/umweltschutz/oekosystem/im/zobelboden\\_standort/](http://www.umweltbundesamt.at/en/umweltschutz/oekosystem/im/zobelboden_standort/)

**Actor:** Full name of the person who cross-checked the metadata record about the site or platform

Usage: reference list  
the respective actor has be taken from the reference list *treeActors*. You find the person name under the first letter of the last name.

Example: Michael Mirtl

**DateOfCheck:** Date on which the entry, cross-check or correction of the metadata record about the site or platform was performed

Usage: Date/Time

Example: 12.12.2004

**Note\*:** additional information about the metadata record

Usage: text

Example: ...

## 2.7. 03Site\_Administration

This metadata section consists of the information about the administration of the site. This encloses the management and funding, as well as the source of information.

<input type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input checked="" type="radio"/> Role	managed_by	Clear
<input type="radio"/> Actor	Dirnböck	Clear
<input type="radio"/> Organisation	Federal Environment Agency	Clear
<input type="radio"/> Note		Clear

**Role:** Role of the Actor within the site or platform. If more actors with different roles (e.g. management, etc.) are active at the site or platform more lines are added.

This includes the following options:

managed_by	<i>Management of the site or platform</i>
funded_by	<i>Funding of the operational and/or establishment costs of the site or platform</i>
used_by	<i>The site or platform is used by the actor for scientific purposes</i>

- Usage: reference list  
see reference list *treeRole*.
- Example: managed\_by
- Actor:** Full name of the person who is responsible for the role listed in field [Role]
- Usage: reference list  
see reference list *treeActors*. You find the person name under the first letter of the last name.
- Example: Dirnböck, Thomas
- Organisation:** Name of the organisation who is responsible for the role listed in field [Role]
- Usage: reference list  
see reference list *treeActors*.
- Example: Federal Environment Agency
- Note\*:** additional information about the administration of the site or platform
- Usage: text
- Example: ...

## 2.8. 04Site\_DataManagement

This metadata section consists of the information about the data management structure of the site or platform.

<input type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> DataSource	database	Clear
<input type="radio"/> DataAccess	limited	Clear
<input checked="" type="radio"/> Actor	Dirnböck	Clear
<input type="radio"/> Note		Clear

- DataSource:** available data format for the data of the site or platform
- Usage: reference list  
In the reference list *treeDataSource* the possible formats are listed.
- Example: database
- DataAccess:** access to the data of the site or platform
- Usage: reference list  
In the reference list *treeAccess* the possible entries are listed.
- Example: limited
- Actor:** Full name of the person who is responsible for the data source listed in field [DataSource]
- Usage: reference list  
see reference list *treeActors*. You find the person name under the organisation.
- Example: Dirnböck, Thomas
- Note\*:** additional information about the data management of the site or platform
- Usage: text
- Example: ...

## 2.9. 05Site\_ DataUsage

This metadata section consists of the information on the existence of data series and optional on the usage of these data by different actors.

<input type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> DataSeries	DataSerieLong	Clear
<input checked="" type="radio"/> Actor		Clear
<input type="radio"/> Note	Governmental Bodies, Universities	Clear

**DataSeries:** definition of which data series are available on the site or platform. This includes the following options:

DataSerieLong	Long term data series are available (more than five years)
DataSerieShort	Short term data series are available (less than five years)
DataSerieModel	Data from modelling approaches are available
DataSerieRisk	Risk assessment data are available

Usage: reference list  
see reference list *treeDataSeries*

Example: DataSerieLong

**Actor\*:** list of users using the data of the site or platform

Usage: reference list  
see reference list *treeActors*. You find the name under the organisation.

Example: ...

**Note\*:** additional information of data usage can be added

Usage: text

Example:

## 2.10. 06Site\_ ResearchEnvironment

This metadata section consists of the information about the research infrastructure present at the site. This includes researcher, laboratories, measurement equipment, etc. For each research infrastructure entity for the site a new record is entered.

<input checked="" type="radio"/> DataSet	Zöbelboden_IntPlot	Clear
<input type="radio"/> ResearchEnvironment	Permanent plot	Clear
<input type="radio"/> Actor		Clear
<input type="radio"/> Amount	150	Clear
<input type="radio"/> Note	Forest floor vegetation, soil	Clear

**ResearchEnvironment:** research environment present at the site or platform. This includes personal resources as well as research equipment, like a meteorological measurement tower.

Usage: reference list  
In the reference list *treeResearchEnvironment* the possible entries are listed.

- Example: meteorological measurement tower
- Actor:** name of the actor who is responsible for the research environment
- Usage: reference list  
see reference list *treeActors*. You find the name under the organisation.
- Example: Dirnböck, Thomas
- Amount:** Amount of research infrastructure items (optional)
- Usage: number (long)
- Example: 2
- Note\*:** additional remarks about the research infrastructure which can not be entered into the reference list of the research infrastructure
- Usage: text
- Example: Forest floor vegetation, soil

## 2.11. 07Site\_ ResearchQuestions

This meta-information section consists of the information about the research topics investigated at the site or platform. For each research question a record is entered.

<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> ResearchTopic	Composition	Clear
<input type="radio"/> Note		Clear

- ResearchTopic:** the research topic or question investigated at the site or platform
- Usage: reference list  
see reference list *treeResearchQuestions* the possible entries are listed.
- Example: Biogeochemical cycles
- \*Note:** additional remarks about the research question which can not be entered into the reference list of the research infrastructure
- Usage: text
- Example: ---

## 2.12. 08Site\_Network

This meta-information section consists of the information about the networks and / or projects in which the site or platform takes part. For each network or international project a line is added.

<input type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input checked="" type="radio"/> Network	ICP IM	Clear
<input type="radio"/> Note		Clear

- Network:** the networks or international projects in which the site or platform takes part
- Usage: reference list  
In the reference list *treeNetworks* the possible entries are listed.
- Example: ICP IM
- Note\*:** additional remarks about the network or international project which can not be entered into the reference list





Usage: text  
Example: ---

### 2.13. 08Site\_HabitatCharacteristic

This meta-information section consists of the information about the habitats present in the site or platform. For each habitat a line is added.

<input checked="" type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> EUNIS Habitats	Woodland, forest and other wooded land	Clear
<input type="radio"/> Cover	90	Clear
<input type="radio"/> Note		Clear

**EUNIS Habitats:** Habitats present at the site or platform according the EUNIS habitat classification

Usage: reference list

In the reference list *treeEUNISHabitats* the possible entries are listed.

Example: Woodland, forest and other wooded land

**Cover\*:** Cover in % of the habitat listed in the site or platform

Usage: number (Double)

Example: 90

### 2.14. 10Site\_Parameters

This meta-information section consists of the information about parameters measured in the site or platform. For each parameter a new line is added. The parameters measured are assigned to the "experimental unit" investigated. This mean the entity observed should be listed, e.g. Forest floor vegetation, mineral soil layer.

<input type="radio"/> DataSet	Zöbelboden_MasterSite	Clear
<input type="radio"/> EUNISHabitat	Woodland, forest and other wooded land	Clear
<input type="radio"/> InvestigatedItem	Tree	Clear
<input type="radio"/> Parameter	Chemical profile of biological tissues - chemical analysis	Clear
<input type="radio"/> MeasurementUnit	mass/mass concentration	Clear
<input type="radio"/> MeasurementFrequency	Annual	Clear
<input type="radio"/> MeasurementStart	01.01.1993 00:00:01	Clear
<input type="radio"/> MeasurementEnd		Clear
<input checked="" type="radio"/> Description		Clear
<input type="radio"/> Note		Clear
<input type="radio"/> Actor		Clear

**EUNISHabitat:** Habitat investigated in the site or platform according the EUNIS habitat classification



Usage: reference list  
 in the reference list *treeEUNISHabitats* the possible entries are listed.  
 Example: Woodland, forest and other wooded land

**InvestigatedItem:** Compartment investigated in the habitat named. The classification of the experimental unit follows the ALTER-Net discussion about the ecosystem compartments, e.g. forest ground floor vegetation, hums layer, mineral soil layer. This is the entity observed in the field.

Usage: reference list  
 in the reference list *treeExperimentalUnits* the possible entries are listed.

Example: Tree

**Parameter:** Parameter investigated in the experimental unit listed including the method of observation

Usage: reference list  
 in the reference list *treeParameters* the possible entries are listed.

Example: Chemical profile of biological tissues - chemical analysis

**MeasurementUnit:** unit of the measurement

Usage: reference list  
 in the reference list *treeUnits* the possible entries are listed.

Example: mass/mass concentration

**MeasurementFrequency:** Frequency of the observation, e.g. annual observation

Usage: reference list  
 see reference list *treeFrequency*

Example: Annual

**MeasurementStart:** Start of the measurement in the site or platform

Usage: Date  
 Example: 01.01.1993

**MeasurementEnd:** End time or the measurement in the site or platform

Usage: Date  
 leave blank if the measurements are still going on

Example:

**Description\*:** optional additional textual information about the method of the observation and the parameter

Usage: text  
 Example: ...

**Note\*:** additional remarks about the measurement

Usage: memo  
 Example: ---

**Actor\*:** name of the actor who is responsible for the observation

Usage: reference list  
 see reference list *treeActors*. You find the name under the organisation.  
 Example: Dirnböck, Thomas

## 2.15. 12ContactPerson

This meta-information section consists of the contact information about the persons listed in the LTER InfoBase. This includes persons as well as institutions.

<input type="radio"/> DataSet	Default	Clear
<input type="radio"/> DisplayName	Peterseil	Clear
<input type="radio"/> ActorClass	Person	Clear
<input type="radio"/> Title	Ing.Dr.	Clear
<input type="radio"/> First name	Johannes	Clear
<input type="radio"/> Last name	Peterseil	Clear
<input type="radio"/> e-mail	johannes.peterseil@umweltbundesamt.at	Clear
<input type="radio"/> Phone		Clear
<input checked="" type="radio"/> Street		Clear
<input type="radio"/> Postal code		Clear
<input type="radio"/> City	Austria	Clear
<input type="radio"/> Country	Austria	Clear
<input type="radio"/> Organisation	Error: Code 1127 not found in tree	Clear
<input type="radio"/> Website		Clear

**DisplayName:** full name displayed for the actor

Usage: reference list

the respective actor has to be taken from the reference list *treeActors*.  
You find the person name under the first letter of the last name.

Example: Johannes Peterseil

**ActorClass:** Classification of the actor. This includes the following options:

Person	<i>Physical person</i>
Organisation Unit	<i>Juridical person</i>

Usage: reference list

the respective actor has to be taken from the reference list *treeActors*.  
You find the person name under the first letter of the last name.

Example: Johannes Peterseil

**Title:** academic title

Usage: text

in the case of an institution it is left blank

Example: Dr.

**First Name:** first name

Usage: text

in the case of an institution it is left blank

Example: Johannes

**Last Name:** last name

Usage: text

in the case of an institution the name of the organisation is listed here

Example: Peterseil

**e-mail:** contact information e-mail address

Usage: text

Example: [Johannes.Peterseil@umweltbundesamt.at](mailto:johannes.peterseil@umweltbundesamt.at)

**Phone\*:** phone number

Usage: text

Example: +43-31304-0

**Street\*:** Contact address - street



- Usage: text  
Example: Spittelauer Lände 5
- Postal code\*:** Contact address – postal code  
Usage: text  
Example: 1090
- City\*:** Contact address - city  
Usage: text  
Example: Vienna
- Country:** Country in which the actor is situated  
Usage: reference list  
in the reference list *treeCountries* the countries are listed.  
Example: Austria
- Organisation:** name of the institution or organisation the actor is mainly working  
Usage: reference list  
in the reference list *treeActors* the possible entries are listed.  
Example: Federal Environment Agency
- Note\*:** additional remarks about the contact person  
Usage: text  
Example: ---
- Website\*:** link to web site  
Usage: Text  
Example: <http://www.umweltbundesamt.at/>

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\* optional fields (in case of latitude and longitude only if GIS data of dataset exists)