

# ArcGIS 10.1 – How to enter Metadata in ArcCatalog for files intended to be shared on the PIE-LTER website (exporting EML-compliant XML).

Version 1.3

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Note: this document will be updated as necessary to keep up with changing data documentation needs and changes in ESRI software.

Purpose: Spatial GIS data files distributed on the internet for the Plum Island Ecosystem LTER will be packaged in a .zip file with two kinds of metadata

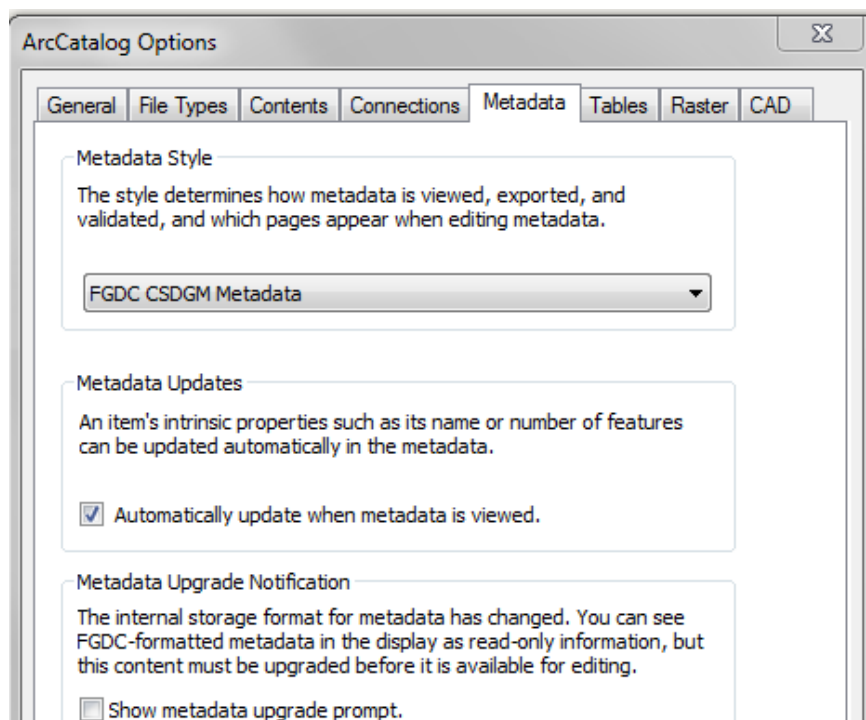
- Internal ESRI metadata – to optimize usability for the end user
- Zip file of ESRI data/metadata - submit to PIE Information Manager, [pie\\_im@mbl.edu](mailto:pie_im@mbl.edu)
- EML-compliant XML file – to optimize discoverability using online search tools

This document is intended to be a guide to ensure you meet the minimum requirements for LTER metadata compliance. In general ensure that metadata in ArcCatalog are filled out thoroughly enough for a user not familiar with the GIS data to use it confidently. What ARC GIS metadata would YOU as new user need to work with the data properly?

Open your ARC GIS file in ArcCatalog

To set up the program, go to: Customize -> ArcCatalog Options -> Metadata

- Ensure that “FGDC CSDGM Metadata” is the appropriate metadata style
- Ensure that Metadata Updates are turned ON by checking the box next to “Automatically update when metadata is viewed”  
(this updates parameters such as map projection, bounding box, etc.)



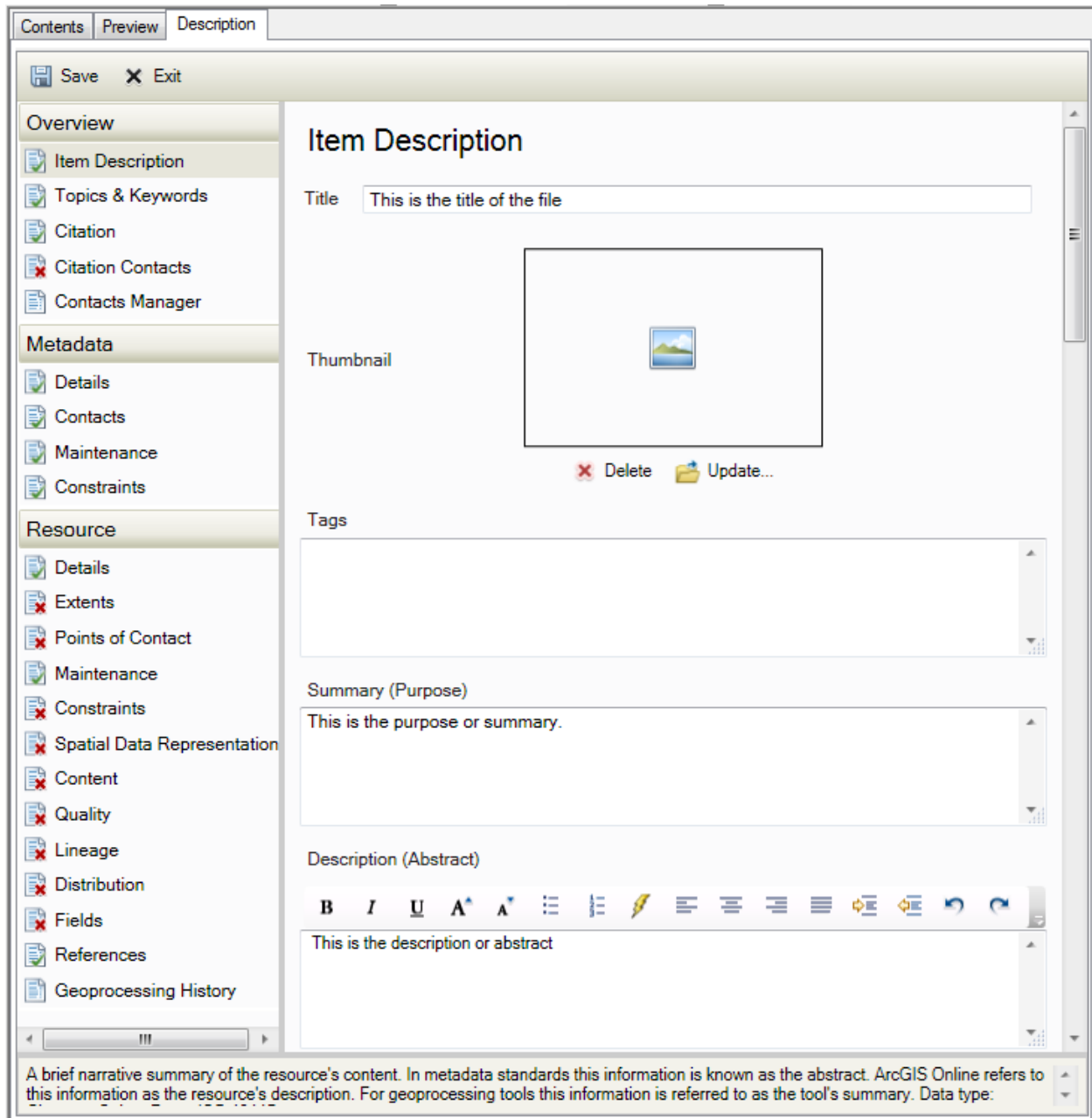
## Filling out the ESRI Metadata in 'edit' mode

\*Note: You must have ArcGIS 10.1 installed to use this protocol.

In ArcCatalog, click on the description tab to view metadata

Then click on edit to open the metadata editing window. This is where you should enter all new metadata, and edit existing data from older versions of the program (after importing).

In this document, we refer to each piece of information by its category listed in the left column.



The following data must be entered to generate a complete metadata record

Please note that this is a minimum. You should include all information necessary such that a user of the file will be able to interpret the data properly.

Overview -> Item Description

- Title
  - This should be a descriptive title that describes your file
  - Should answer the following questions:
    - What data are in the dataset?
    - What time period is the data from? A particular year?
    - What geographic location is represented?
  - Example: “Land Use, Anderson Level 1 Designations (1999), Ipswich Watershed, Ipswich, Massachusetts”
- Description (Abstract)
  - This should be a full descriptive abstract.

Overview -> Topics and Keywords

- Theme Keywords – typed one per line
  - At a minimum this must include the type of data
  - If appropriate add one or more of the LTER Core Research Areas; primary production, organic matter, nutrients, disturbance, dynamics of populations
- Place Keywords – typed one per line
  - Should include these standard keywords:
    - PIE LTER
    - Plum Island Ecosystem
    - New England
    - Massachusetts
    - Ipswich River Watershed or other watershed of interest
  - Should also include particular keywords for the segment of watershed analyzed

Overview -> Citation

- Dates
  - Published. At a minimum, this should be entered. It can be either the date the dataset was made available online, or the date the dataset was finished
  - Also enter other dates if they apply

Metadata -> Details

- Dataset URL: The dataset url entered here does not get used in the LTER website. So enter a URL here if there is a pertinent website to refer users to.
  - For example, if there is an internal Clark HERO website, you could enter that here

#### Metadata -> Contacts

- You should only enter the contact information of the individual who created the dataset here. Other contacts are entered elsewhere.
- Requires Name, Organization, Position
- Role should be set to "Originator"
- Does not require address/phone/email, however you can enter them here if the originator wishes to remain connected with the dataset.

#### Metadata -> Maintenance

- Needs to be set. Choose "Not planned" unless you plan to update it.
- If updates are planned, enter the frequency and date.

#### Resources -> Details

- Status
- Language should fill in as English automatically
- Spatial Representation Type

#### Resources -> Extents

- Describe the extent
  - o This would include watershed description, boundary area description, etc.
- Add Temporal Extent
  - o Can be either a Period or Instant extent
- Needs a physical extent entry (bounding box)
  - o This SHOULD fill out automatically. If not, you can get this information by right-clicking on the shape file/raster and selecting the 'extent' tab. Just make sure it's in latitude and longitude, not a projection

#### Resource -> Points of Contact

- This should include the contact information for any individuals associated with the dataset
- You must at least have an entry with Role of "Point of Contact"
- You should only have one entry per "role"
- Each entry should include
  - o Name
  - o Organization
  - o Position
  - o Role
  - o Email
  - o Address (all fields)
  - o Phone (only required for the Point of Contact)

- If the only contact is the 'originator' entered previously, you can use the 'load' button to import the information

#### Resource -> Maintenance

- Update frequency is necessary
- If updates are planned, frequency must be filled out

#### Resource -> Constraints

- Insert PIE standard into the "General Constraints" box for "Use Limitations". This will also paste it into the Overview -> Item Description
- Standard can be found at end of this document

#### Resource -> Spatial Data Representation

- Ensure that the data here are autopopulated correctly, and fill in values as necessary to properly describe the data..

#### Resource -> Content

- Ensure that the data here are autopopulated correctly, and fill in values as necessary to properly describe the data.

#### Resource -> Lineage

- This is where the methods info and process steps go.
- The Statement should be a general description of the processing, including how original data were obtained, how they were processed, etc.
- For each process step (minimum 1)
  - o Fill in a complete description. This should include
    - Source of original data
    - Transformation or process applied
    - Either a description of the process in detail or a link to a website that describes the method used.
    - For example, a land use reclassification should include a link to original source of data, description of original data and organization that collected it, and a list of the old to new values.
  - o Fill in the "processor" area with the name, organization, and position of the individual that did the processing.

#### Resource -> Distribution

- Distributor -> Digital transfer options
  - o Enter the web address to the data file
  - o Function: Download
- For data that is not yet available on the PIE main website, use the internal data link

Resource -> Fields

- Enter as much information about the fields as possible

PIE data use agreement (updated 10April2017)

Insert the following PIE standard into the "General Constraints" box for "Use Limitations".

PIE LTER Data Use Agreement

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

1) 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.

For example:

Giblin, Anne; Hopkinson, Charles (2000): Rates of benthic metabolism and nutrient cycling in the Parker and Rowley Rivers of the Plum Island Sound estuary. Plum Island Ecosystems LTER, Long Term Ecological Research Network. <http://dx.doi.org/10.6073/pasta/17fa8b4fef50c7b85cac3d61482a7cb6>

2) 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. The Data User should contact the Data Set Contact to ensure the appropriate Granting Programs are acknowledged.

For example:

Data sets were provided by the Plum Island Ecosystems LTER. This material is based upon work supported by the National Science Foundation under Grants #OCE-9726921, OCE-0423565, OCE-1058747, OCE-1238212, OCE-1637630.

3) 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.

4) 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.

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