

ArcGIS Metadata for ArcGIS Online, FGDC Style, from Scratch

Version 1.7

This document is intended to provide guidance for data and metadata providers to the State of New Jersey ArcGIS Online / Open Data site and to partner sites. As of Spring 2018, this site is set to use FGDC style ArcGIS metadata.

https://njgin.state.nj.us/oit/gis/NJ_NJGINExplorer/docs/MD_ArcGIS_from_scratch_for_AGO.pdf

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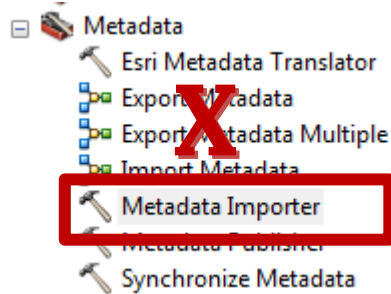
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Summary

- ❖ Set up tools: Configure ArcCatalog
- ❖ Gather information about the data
- ❖ Synchronize metadata with data
- ❖ Edit the metadata to add information needed for the intended purpose
- ❖ Thumbnail, easy or custom
- ❖ Create file for AGOL

Things to Remember

- ❖ If starting with existing metadata in FGDC CSDGM format, instead of this document, please refer to *Transitioning from FGDC to ArcGIS metadata, FGDC style for ArcGIS Online*. There are several very important differences in workflow. That document also explains how to generate new FGDC CSDGM xml files from ArcGIS metadata.
- ❖ Date formatting: for a date in a free text field, enter in this format: 2018-02-15.
- ❖ Change Publication Date for re-release of updated data.
- ❖ Need to transfer metadata contents with no changes? Use the ArcToolbox Metadata Importer tool (Conversion tools -> Metadata -> Metadata Importer).



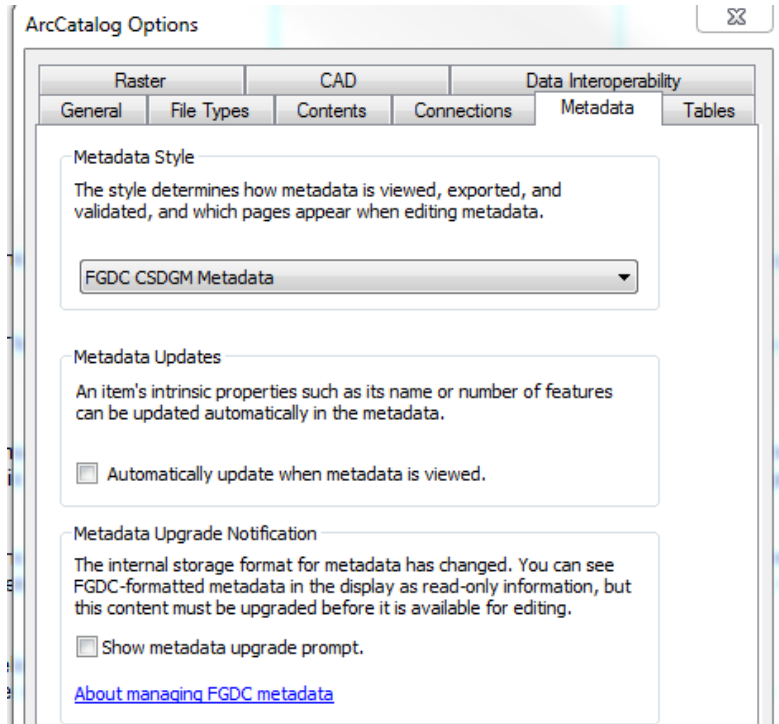
Do not use the Export or Import buttons on the Description tab, nor the Export Metadata model. When using the tool, the Source is the file with good metadata. The Target metadata will be replaced in full.

- ❖ For submissions of metadata to ArcGIS Online, a cleaned-up record is important. See Section I, Producing Metadata for ArcGIS Online.

Step by Step Instructions

A. Essential tools - set up in preparation

1. **These instructions are written for ArcGIS 10.3.1 for Desktop.** In previous versions the ArcGIS editor does not work as well. There are no major changes to metadata editing in ArcGIS 10.5.1. ArcGIS Pro still lacks the full metadata functionality in ArcCatalog. Check back in early 2019 for update.
2. **Remember** that **whatever object is highlighted in the Catalog Tree** will be active, and visible in Contents and Preview. Its metadata will be visible in Description tab, and will be opened for editing if you click the Edit button there.
3. **Set up ArcCatalog properly for FGDC style metadata.** Customize menu -> Options -> Metadata tab. Set up as shown, including unchecking automatic updates, and prompts: (see below)



4. **Optional: Install Notepad++, including the XML Tools plugin.** This is free software under the GNU General Public License as published by the Free Software Foundation.
5. **Optional: Install XML Notepad.** This is a free download from Lovett Software. **Set it to save files WITHOUT initial Byte Order Mark.** (View -> Options -> Formatting Options -> No byte order mark on save = True)

The above two tools are useful if for editing an xml file directly, outside of a structured metadata editor. Not all metadata writers need to do this.

6. Obtain tools that help when editing FGDC metadata, such as the Metadata Quick Guide and perhaps the FGDC CSDGM Workbook.
7. **ArcGIS Desktop Help for using the new editor to produce FGDC CSDGM style metadata:** There are various useful help topics under Geodata -> Data types -> Metadata. The one you are most likely to need repeatedly is *Illustrated guide to complete FGDC metadata*, under Editing metadata -> Metadata workflows. You might want to “Favorite” that one.

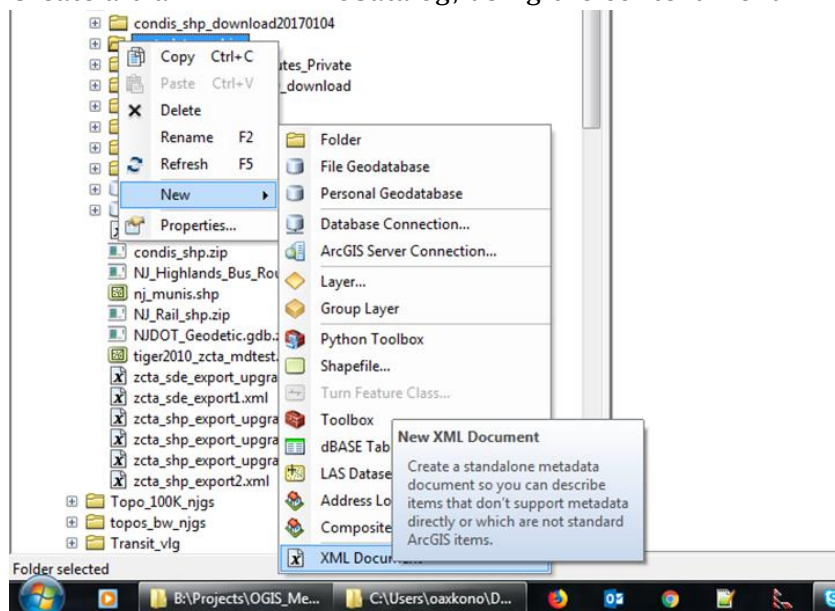
B. Gather information about the data set

1. **If the data have not been created yet:** Set up a way to collect notes or a formal project log, depending on how large and complicated the process will be. *Twenty Questions about Geospatial Data*, available from NJGIN as a PDF file and as an MS Word file, may be of help.
2. **If you created the data:** Review notes or project log. If you wrote any FGDC CSDGM metadata, instead of this document consult *Transitioning from FGDC to ArcGIS metadata, FGDC style for ArcGIS Online*, also available from NJGIN.
3. **If someone else created the data:** Request notes and/or an interview. If you are not sure what to ask, try using *Twenty Questions about Geospatial Data* (see above.) Also, double-check to see if the data have FGDC CSDGM metadata attached already. If so, extensive information will be visible at the very bottom of the ArcCatalog Description tab in a grey font; expand the section entitled *FGDC Metadata (read only)*. If extensive FGDC CSDGM metadata are present, see 2. above.
4. **If Esri tools were used to create the data:** Review any geoprocessing information that was captured automatically and is visible on the ArcCatalog Description tab. If there is extensive information there, back it up by creating a blank xml (see screen shot below) and using the Metadata Importer tool (see Things to Remember, above for tool help.)

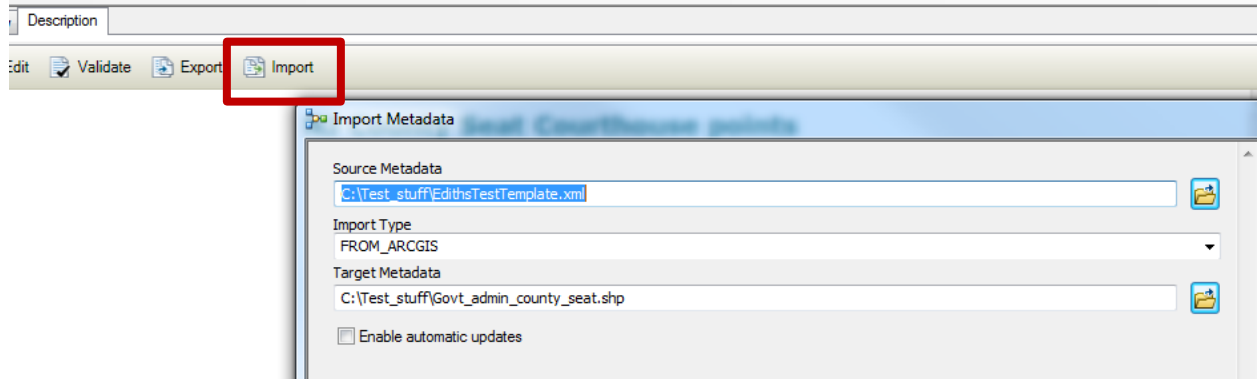
C. Template

If several data sets from the same organization need metadata, it is useful to create a generic record (xml) that includes the information that will be the same for all of them, such as the Metadata Contact, the Originator, the Publisher, Access and Use Constraints, Distribution Liability, etc.

1. Create a blank xml in ArcCatalog, using the context menu:

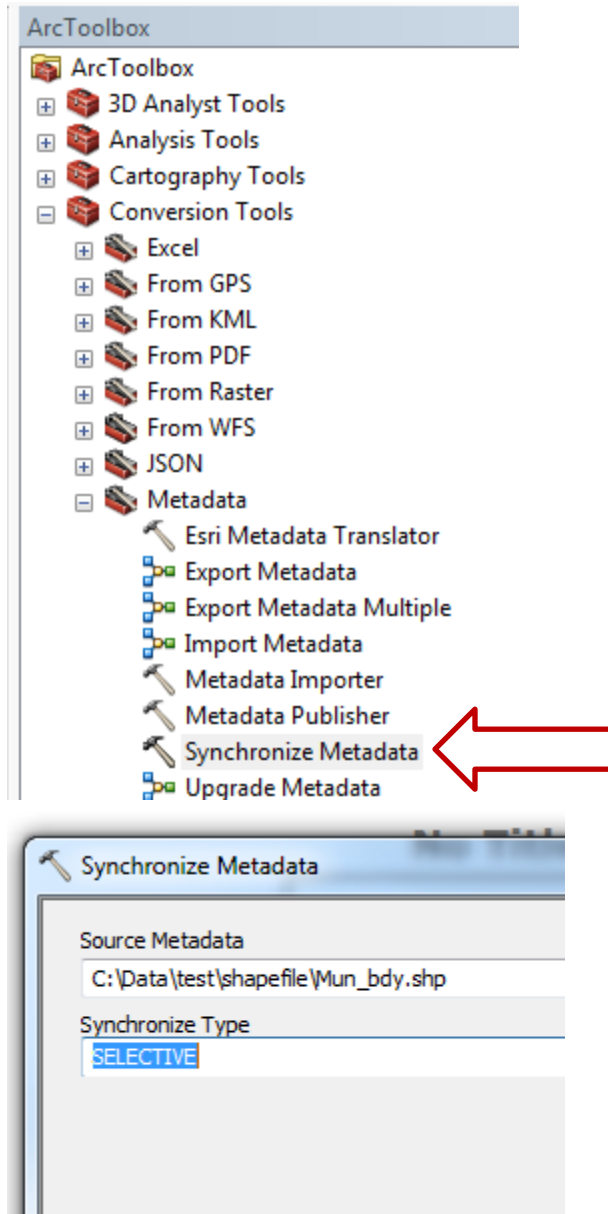


2. Highlight the new blank xml and name it Template.xml or some variation.
3. Use the ArcGIS metadata editor, start editing, and write the appropriate information into the Template xml, then Save. (See section F. below for editing instructions.)
4. Use the Import button on the Description tab to import the template into association with a data set that needs metadata. The *Source Metadata* is your personalized template. *Import Type* is FROM_ARCGIS. *Target Metadata* is the data set that needs metadata. **Uncheck** *Enable automatic updates*.



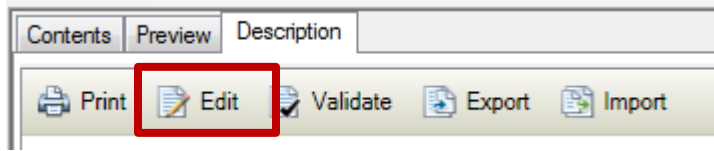
D. Synchronize This process will draw information from the data and put it in the ArcGIS format xml.

1. Highlight the correct data object in the Catalog Tree.
2. Open the **Synchronize Metadata tool in ArcToolbox** (Conversion Tools -> Metadata -> Synchronize Metadata). The *Source Metadata* is the data set you are trying to document. Use the SELECTIVE option in the tool. See screen shots below:



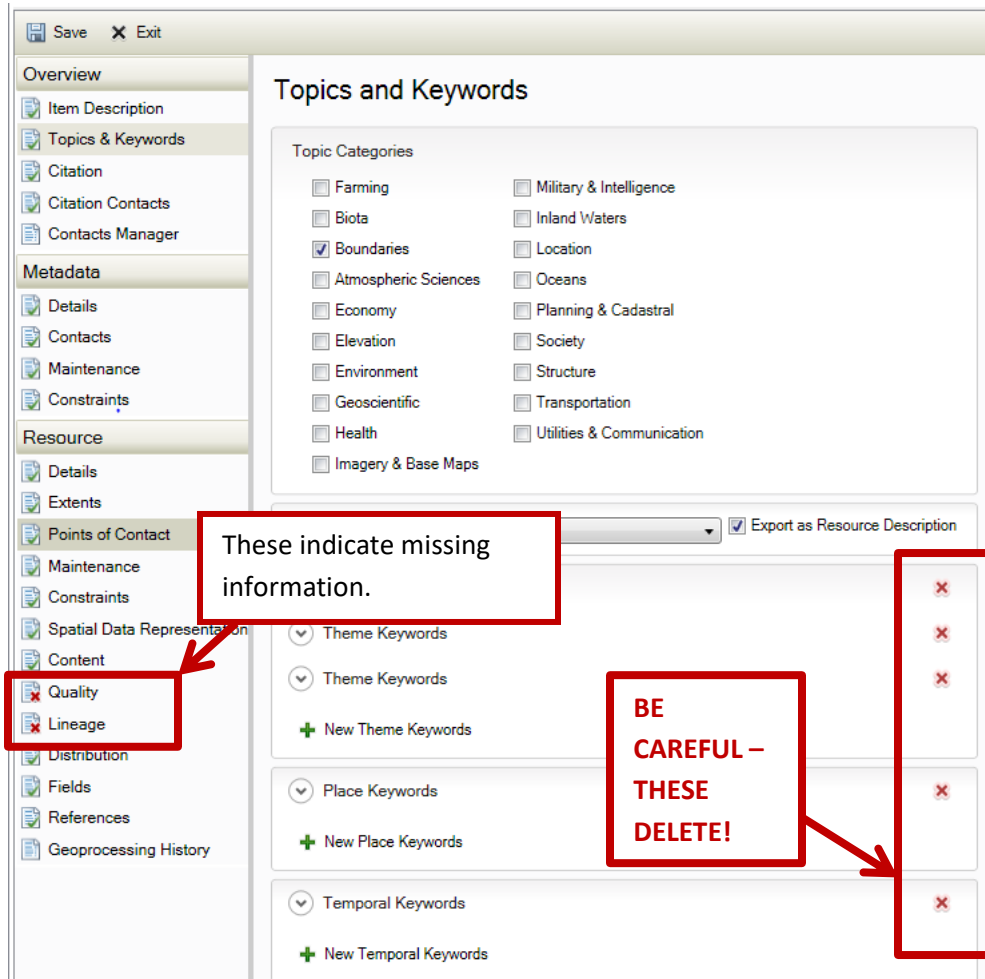
E. Examine the results. Note that after the tool runs, ArcCatalog may automatically put the focus on the containing folder, not on the object just worked on. Click on the data in the Tree to re-highlight it. The *Description* tab should now show a lot of information that was captured automatically from the data.

F. Editing in ArcCatalog. Open the metadata for editing by clicking the Edit button at the top of the Description tab



Now the metadata can be edited to add information to it. Most of the manual entry elements required for cataloging are listed below. More detailed lists of elements and contents for cataloging and for full documentation can be found in lists published by NJGIN, and in Appendices to this document. In the Editor, first look for items marked with a red **x** in the section list on the left side of the tab. Not all of these need to be fixed completely, but they are a place to start.

IMPORTANT: Be careful which red x you click on!



To cancel bad edits, *Exit* without saving to revert to the way the metadata were the last time they were saved. For additional field guidance, hover cursor over the field and look in the help bar at the bottom of the Description pane.

1. **Title:** This should be succinct but informative. It should give the reader a good clue to the contents of the data set. Do not leave it as just the filename of the data set (which is what ArcCatalog captures.) It may be helpful to readers to include a well-known filename near the end of the Title.
2. **Summary (Purpose):** The “why” of the data set, i.e. the business reason for its creation.
3. **Description (Abstract):** A paragraph or two conveying the “what” of the data set. Should be intelligible to the non-specialist reader.
4. **Use Limitation (Use Constraints):** Explain how the data should or should not be used; request attribution. Sample language is available for state agencies. If a liability disclaimer should appear on the AGOL Item page, include it here.
5. **Bounding Box (Bounding Coordinates):** If the metadata are associated with the relevant data, should be filled in automatically by ArcCatalog during synchronization. If not, must be filled in manually in Item Description section, using geographic coordinates in signed decimal degrees. Be sure to check the box for “Extent Contains the Resource.”
6. **Topic Categories:** pick one. Do not use *Boundaries* unless the data set is administrative or political boundaries, such as municipal boundaries or voting districts. See Appendix for definitions.
7. **Content Type:** Pick from the list and check the box for *Export as Resource Description*. This is required for proper function in old NJGIN2 catalog, optional but useful in ArcGIS Online.

Topics and Keywords

The screenshot shows the 'Topics and Keywords' form. Under 'Topic Categories', the following categories are listed with checkboxes: Farming, Biota, Boundaries, Atmospheric Sciences, Economy, Elevation, Environment, Geoscientific, Health, Imagery & Base Maps (checked), Military & Intelligence, Inland Waters, Location, Oceans, Planning & Cadastral, Society, Structure, Transportation, and Utilities & Communication. Below this, the 'Content Type' dropdown is set to 'Offline Data', and the 'Export as Resource Description' checkbox is checked. A large red arrow points to the 'Export as Resource Description' checkbox.

8. **Theme Keyword(s):** Add a Theme Keywords section, then enter subject keyword words or phrases that a user might choose when searching for this data item. Separate them with newlines. If keywords are from a published vocabulary, add a Thesaurus Citation in the same section. Otherwise, skip it.
9. **Place Keyword(s):** The most important / relevant one needs to be first in the list. For statewide data, should be “New Jersey”. For county data, the county name and state, e.g. “Sussex County, New Jersey”.
10. **Tags:** Copy all keywords into the Tags field (in Item Description sub-section.)
11. **FGDC Geospatial Presentation Form:** Pick from list.
12. **Publication date and edition:** Please be sure the publication date reflects the latest release of the data, not the original release. Publication date is the ONLY date that can be counted to persist through crosswalks to other metadata formats. Please be sure to change this date every time metadata are updated for a discrete re-release. This becomes more and more important as the data world becomes more interconnected. It is optional to put any brief information about

- previous releases in edition, which is a free text field. Sample language: “Third edition; original publication date 2009-01-15.” More-involved histories can go in Supplemental Information or Process Steps. Use of Created and Revised dates is optional; they will persist when metadata are shared with ArcGIS products but will not translate into exported FGDC CSDGM standard metadata.
13. **Citation Contact Information for Originator:** fill in fully-described organization, and person’s name if applicable. This should be the organization and/or person who defined the requirements for the data set. There is no harm in completing all the contact information to create a re-useable contact.
 14. **Citation Contact Information for Publisher:** Fill in fully-described organization, City and State at least. There is no harm in completing all information to create a re-useable contact.
 15. **Metadata Date Stamp:** initially fills in automatically, but can be changed.
 16. **Metadata Contact Information:** fill in a name, full organization, and full contact information either for the metadata author, or for someone who will continue to be able to answer questions about the metadata.
 17. **Status/Progress** of data set development: under Resource Details, pick the appropriate choice.
 18. **Credits:** Copy in Originator and Pubisher, then add anyone else who should receive credit/thanks (partners, funding sources, etc.)
 19. **Temporal Extent (Time Period of Content date(s)):** in the ArcGIS Editor, create a **new Extent** section, separate from the Extent section for bounding coordinates. To the new section, add **Temporal Period Extent or Temporal Instant Extent** and fill in date(s). If you can establish when the data matched the real world, Description of the Extent is Ground Condition. Otherwise, use Publication Date or a custom entry.
 20. **Maintenance [and] Update Frequency:** pick the appropriate choice. Unless there is a process in place for formal change detection, editing, and publishing, “as needed” probably is not appropriate.
 21. **Access Constraints, Use Constraints, Distribution Liability:** Standardized language across an organization is appropriate in many cases, so these are good to put in a template. Sample language is available from NJOIT - OGIS. In the ArcGIS Editor, these are in the following locations:
 - a) Access Constraints Resource -> Constraints -> Legal Constraints -> Other Constraints (leave out if none.)
 - b) Use Constraints Resource -> Constraints -> General Constraints -> Use Limitation AND/OR Overview -> Item Description -> Use Limitation (4, above)
 - c) Distribution Liability Resource -> Constraints -> Legal Constraints -> Use Limitation.
 22. **Distribution Information:** In AGOL and Open Data, the provider is displayed with the Item, from the Esri account information. Skip this section if the metadata won’t be used elsewhere. However, if the metadata will be used elsewhere, for Distribution Information to travel with the data it will need to be filled in. If help is needed, see ArcGIS Desktop Help topic *Illustrated guide to complete FGDC metadata*, and jump to the Distribution Information section, to see how to fill out the missing parts, and/or consult the complete element list in Appendix III. It is a bit confusing because the ArcGIS editor is formatted to allow

editors to fill this in for FGDC AND ISO metadata export, and they require two different organization schemes. For FGDC CSDGM, almost all the info needs to be filled out within the Distributor entry. However, URLs go in two places:

Distribution -> **Distributor** -> Digital Transfer Options -> Online Resource -> Linkage

Distribution -> Digital Transfer Options -> Online Resource -> Linkage

Use the second one above for a direct download URL, if available and/or a general information URL (element is repeatable.) This one ends up in Section 1 - Identification Information of exported FGDC CSDGM metadata. If the metadata are on the old NJGIN catalog, the first entry also will be provided as a direct linkage attached to the metadata Title when it is returned from a search. If the ArcGIS metadata are uploaded to ArcGIS Online, an entry will be filled in automatically.

Use the first one above for all kinds of direct access. This one ends up in Section 6 - Distribution Information of exported FGDC CSDGM metadata.

For downloadable data, the same URL will be in two places.

23. **Mandated creators, including NJ State vendors:** are required to provide more information than just the essential elements for cataloging. There are separate help documents to assist with creating fuller metadata.
- a) **A full list of elements** for compliant metadata is published by NJGIN in several formats. The complete list of FGDC CSDGM elements in Standard order is in a separate document.
https://njgin.state.nj.us/oit/gis/NJ_NJGINExplorer/docs/MD_Documentation_elements_FGDC_CSDGM.pdf
 - b) **Appendix III lists the full documentation checklist elements that require manual entry** in the ArcGIS editor. This is a shorter list because some of the required elements are filled in during metadata synchronization with the data.
 - c) **Help with Fields (Entity and Attribute Information)** is available in the full element list in Appendix III. If there already is a detailed data dictionary in tabular format, there are alternative ways of satisfying the requirements for the Fields section. Contact the human help listed below for more information.
 - d) **Help with sample language for Constraints and Distribution Liability** is available from NJGIN.

G. Alternative: editing in ArcGIS Online. ArcGIS Online has a metadata editor. It can be used instead of ArcCatalog to fill in most of the required manual entry information, or as a supplement to ArcCatalog to make minor updates after uploading full metadata. However, there is a bug in the AGOL editor that omits Publisher and Publication Place. The AGOL Editor also cannot extract as much information directly from the data and there is no automated thumbnail tool.

H. Create thumbnail

1. Automatic via ArcCatalog (easy): select the data set in the Catalog Tree. Select the Preview tab in the Contents pane and click the thumbnail button on the

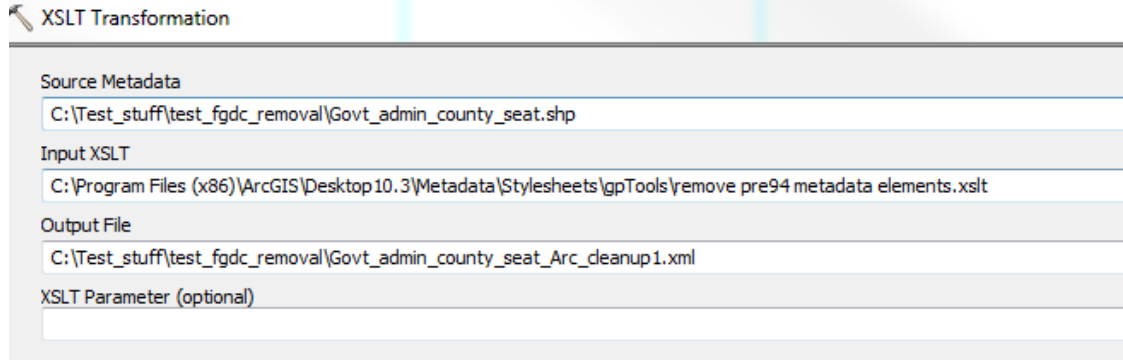
Geography toolbar.



2. A branded, custom thumbnail is strongly recommended for vetted State data to be registered in ArcGIS Online. The human help listed below can provide further information.
3. Custom: Create a customized view of the data in ArcMap, and a custom image.
 - a) Set the layout Data Frame Properties to Size width = 2.08in, height = 1.38in. This will yield a 200 x 133 pixel image.
 - b) Add a base map or layer. Symbolize data and zoom to a pleasing scale. Check in layout view. Add a branding banner image if desired.
 - c) Choose File -> Export Map, with options as follows:
 - d) Save as type JPEG
 - e) Resolution 96 dpi
 - f) Clip output to graphics extent ON
 - g) Once the JPEG file has been created, switch to ArcCatalog, select the feature class, and invoke the ArcGIS metadata editor. Import the image by using the *Update* button under the thumbnail or placeholder. If further info is needed, see ArcGIS Help instructions *Creating a thumbnail from the Description tab*.

I. Producing metadata for ArcGIS Online:

1. **Incorporate a custom thumbnail or create an automatic thumbnail using ArcCatalog** (instructions for both above).
2. **Consider adding keywords/tags:** any keywords put in keywords fields and copied into Tags in the metadata will be written into the AGOL item Tags (aka searchKeys), the first time you upload a metadata file. If you update existing metadata on AGOL by submitting a new, edited xml, any additional Tags may have to be copied in manually.
3. **Consider copying Originator and Publisher into Credits:** This will enable them to show up in the AGOL Item front page.
4. **Consider cleaning out “private” information:** several classes of information can be removed from the metadata record using the XSLT Transform tool (Conversion Tools -> Metadata.)



The tool requires an *Input XSLT* file to define the processing. Those files are installed with ArcMap/ArcCatalog. The file location on my Windows 7 PC is C:\Program Files (x86)\ArcGIS\Desktop10.3\Metadata\Stylesheets\gpTools\ . You might want to add an ArcCatalog Tree connection to this folder on your PC for easy access.

Automatically-collected geoprocessing information can be removed by using the tool with *remove geoprocessing history.xslt*; references to computing platform addresses can be removed by using the tool with *remove local storage info.xslt* or *remove local storage info strict.xslt*. Note that each time the tool is run, the *Source Metadata* is the previous metadata, and the *Output File* is a new metadata xml file of the processed output metadata.

The final file should be imported into association with the data, using the Toolbox Metadata Importer tool. See details in Things to Remember.

5. **If the AGOL Item is not an uploaded shapefile, create a standalone ArcGIS xml:**
 - a) Invoke the XSLT Transform tool. Use *exact copy of.xslt* for the Input. The *Source* will be either the metadata associated with the data, or a more cleaned-up xml file produced above.
 - b) Name the output file to make it recognizable as ArcGIS metadata for the correct data set (e.g. Govt_admin_county_seat_3857_Arc.xml)
6. **Sign into AGOL and upload the standalone xml file.** If the Item is created in AGOL by uploading a zipped shapefile with metadata, skip this step - AGOL will read in the .shp.xml. On the AGOL Content Item interface, a standalone xml file can be uploaded using the *Metadata (-> Edit)* button. When the editor interface comes up, click the *Open* or *Overwrite* button, which will allow browsing to the standalone file, and then upload the file. Then *Save and Close*. Then check the Item page to confirm changes.



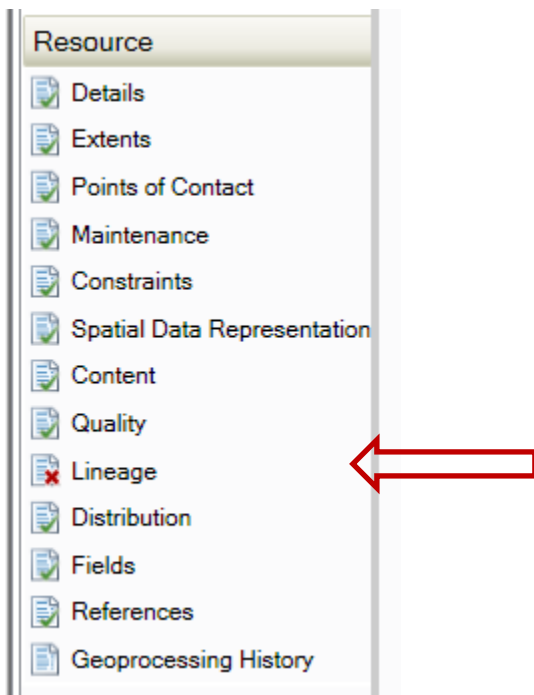
Appendix I: A few nifty features and quirks of the ArcCatalog Editor

- ❖ **Contact Information** - The ArcGIS metadata editor includes a Contacts Manager, which can save Contact Information paragraphs to a file on the PC or server where ArcGIS is installed. The contacts can then be re-used. When a metadata record is open in the Editor, the Contacts Manager (section) lists all the Contacts saved in the Manager file (first), and then all the additional ones in the current metadata record. You can save new ones or un-save old ones in this view. Un-checking will not delete the entry from the current metadata, just from the saved ones. When you load a saved contact somewhere in the ArcGIS editor, don't forget to set/change the role for the new instance of use. If you are comfortable editing xml files in an xml or text editor, you can edit directly the file where the saved contacts are stored: at ArcGIS 10.x, the file is located at: <user documents>/ArcGIS/Descriptions/contacts.xml

- ❖ **Synchronization** - we are done struggling with manually entering Spatial Reference information. As long as there is a proper spatial reference on the data, ArcGIS will read it into the metadata. A lot of other information also gets read in this way, depending on how the synchronization is invoked. The full list of what can get synchronized for a feature class is below:
 - Title - gets file or feature class name
 - Bounding Coordinates in decimal degrees
 - Content Type as Downloadable Data
 - Presentation Format e.g. digital map
 - Dataset language as English (United States)
 - Spatial representation as vector (if it is polygons)
 - Processing environment (Windows build version etc)
 - ArcGIS Item properties, including file location (these are non-editable, but don't get exported in the FGDC CSDGM xml)
 - Extents, both geographic coordinates and native coordinate system units
 - Spatial Reference, both EPSG reference and full instantiated elements
 - Spatial Data Properties (roughly equivalent to Spatial Data Organization)
 - Field names, aliases, and types
 - Metadata date stamps and scope

- ❖ **Synchronization options** - some operations perform a set type of synchronization. If you synchronize manually, you can control what gets synchronized to some extent:
 - ALWAYS - Does not change an edited Title, but will fill it in if blank.
 - ACCESSED - Elements will be synchronized whenever an ArcGIS client accesses the data, even if ArcCatalog is set to not do this. The sync will reset some date stamps, for example, every time someone examines the data. Once ACCESSED is chosen, it is set for the data object and is difficult to change.
 - CREATED - If metadata are present but empty, does not fill elements.
 - NOT_CREATED - Will fill above elements if empty, and update some even if filled. Does not over-write edited Title or a manually-entered bounding box.
 - OVERWRITE - Overwrites all of the above, even if they have been edited by a human already (Existing readable Title gets destroyed.) However, existing attribute definitions are not destroyed.

- SELECTIVE - Overwrites the above with info from current data, except for Title and Content Type.
- ❖ **Date formats** - In the ArcGIS editor, the date convention for ISO metadata is followed. Dates are YYYY-MM-DD. Times are hh:mm:ss . Most date fields are restricted in the editor to using the calendar date picker. If you do not know the month or day, establish a convention (e.g. use 2002-01-01 or 2002-12-31 if all you know is the year). When putting a date and/or time in a free text field, it makes sense to format it properly. When exporting to FGDC CSDGM xml, the contents of date/time fields will be translated to FGDC CSDGM format and stored that way in the xml. Contents of free text fields will remain as entered. The ArcGIS stylesheets **display** almost all dates in the ISO format if the date has been properly-formatted in an FGDC xml date field.
- ❖ **Error flags** (little red **x** in editor section list) - A few of these may persist, even after completion of all the information necessary to produce FGDC CSDGM compliant metadata. The Quality and Lineage sections of the editor are the most frequent culprits. If you are pretty sure the information is complete but want to check, export an FGDC CSDGM xml and run it through the MP validation service to identify any missing info.



Appendix II: Required Cataloging Elements for NJGIN

List below is in ArcCatalog Metadata Editor order. These are the minimum list of elements that will work well for cataloging. Fields marked # are filled during ArcCatalog synchronization or automatically by the editor, but can be changed. Fields marked * are commonly the same for many records and are candidates for template.

❖ Overview section

Item Description sub-section

- Title
- Summary (Purpose)
- Description (Abstract)
- Use Limitation (Use Constraints) *
- Bounding Box (4 coordinates) #

Topics & Keywords sub-section

- Topic Category (check box)
- Content Type, and Resource Description check box
- New Theme Keyword section, Theme Keywords (separate with comma or line break)
- *Theme Keyword Thesaurus* (only if above keywords are from a published vocabulary)
- Place Keyword

(Resource) Citation sub-section

- Title (same as above, edit only if necessary)
- FGDC Geospatial Presentation Form
- Dates -> Published (please be sure to change for each discrete data release)

(Resource) Citation Contacts sub-section

- Citation Contact (name and/or organization) and Role = Originator *
- Citation Contact (name and/or organization, plus at least City and State), and Role = Publisher *

❖ Metadata section

(Metadata) Details sub-section

- Date Stamp #

(Metadata) Contacts sub-section

- Metadata Contact (name and/or organization) plus full contact information including email, and Role = Point of Contact *

❖ Resource section

(Resource) Details sub-section

- Status (Progress)

(Resource) Extents sub-section, ADD A NEW EXTENT SUB-SECTION

- Temporal Instant Extent Date or Temporal Period Extent Dates (Time Period of Content Date(s))
- Temporal ... Extent Description: Ground Condition, Publication Date, or free text (Currentness Reference)

(Resource) Maintenance sub-section

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- Update Frequency (Maintenance and Update Frequency)
(Resource) Constraints sub-section
- Legal Constraints -> Use Limitation (Distribution Liability) *
- Legal Constraints -> Other Constraints (Access Constraints); leave out if none. *
- **(Resource) Distribution** sub-section -> Digital Transfer Options -> Online Resource
- Linkage (Online Linkage) Not required for ArcGIS Online access points. Required for other download and/or service points.

Appendix III: Required Full Metadata Elements, Editor field list

This list includes all the fields, in Editor order, that must be filled in or edited **manually** in the ArcCatalog Metadata Editor (or imported from a template) to produce full metadata per NJDEP/NJGIN required list. **Warning:** the following list does **not** include all the fields that may have outdated information in them, if the metadata were upgraded from an existing FGDC CSDGM record.

A similar listing in other formats is available from NJGIN, including a list in standard element number order: *Metadata full documentation element checklist for typical GIS vector data for NJ, FGDC CSDGM*, at

https://njgin.state.nj.us/oit/gis/NJ_NJGINExplorer/docs/MD_Documentation_elements_FGDC_CSDGM.pdf

❖ Overview section

Item Description sub-section

- Title
- Summary (Purpose)
- Description (Abstract)
- Use Limitation

Topics & Keywords sub-section

- Topic Category (check box)
- Content Type, and Resource Description check box
- Place Keyword

(Resource) Citation sub-section

- Title (same as above, edit only if necessary)
- FGDC Geospatial Presentation Form
- Dates -> Published

(Resource) Citation Contacts sub-section

- Citation Contact (name and/or organization) and Role = Originator
- Citation Contact (name and/or organization, plus at least City and State), and Role = Publisher

❖ Metadata section

(Metadata) Contacts sub-section

- Metadata Contact (name and/or organization) plus full contact information including email, and Role = Point of Contact

❖ Resource section

(Resource) Details sub-section

- Status
- Supplemental Information

(Resource) Extents sub-section

- Temporal Instant Extent or Temporal Period Extent, including date or dates and Description. The latter may be Ground Condition, Publication Date, or free text. This information must be in a completely separate Extent entry, **not** in the same one as the Bounding Box Extent.

(Resource) Maintenance sub-section

- Update Frequency

(Resource) Constraints sub-section

- Legal Constraints -> Use Limitation (Distribution Liability)
- Legal Constraints -> Other Constraints (Access Constraints); leave out if none.

(Data) Quality sub-section

- Report Type -> Conceptual Consistency AND Measure -> Description [Logical Consistency Report]
- Report Type -> Completeness Omission AND Measure -> Description [Completeness Report]
- Report Type -> Quantitative Attribute Accuracy AND Measure -> Description [Attribute Accuracy Report]
- Report Type -> Absolute External Positional Accuracy AND Dimension -> horizontal AND Measure -> Description [Horizontal Positional Accuracy Report]
- A second set of Absolute External Positional Accuracy report elements if Vertical Accuracy is pertinent.

(Resource) Lineage sub-section

- If published or archived source data or documents were used, for each one:
 - Source Description
 - Scale Denominator (only for paper maps, or data of known nominal scale)
 - Source Citation Title
 - Alternate Title [Source Citation Abbreviation] e.g. file name
 - FGDC Geospatial Data Presentation Form
 - Date Published for the **Source**
 - Edition (only if referenced by source documentation)
 - Source Citation Contact name and/or organization and Role = Originator
 - Source Citation Contact name and/or organization, City, State, and Role = Publisher
 - Source Temporal Instant Extent or Temporal Period Extent, including date or dates and Description.
- If detailed processing information is available, for each process step:
 - Process Description (include description of source(s) if not documented above)
 - Process Step Date (and time if relevant)

(Resource) Distribution sub-section

Distributor sub-sub-section (BE CAREFUL TO CHOOSE THIS CORRECTLY - it is the second one of three.)

- Distributor Contact organization and/or name, Role = Distributor, and full contact information
- Ordering Process Fees
- Available Date or Date Period
- Ordering Instructions
- Distribution Format -> Format Name
- Distribution Format -> Format Version
- Digital Transfer Options -> Online Resource -> Linkage (direct access URL for download or service consumption)

Digital Transfer Options sub-sub-section (BE CAREFUL TO CHOOSE THIS CORRECTLY - it is the third one of three.)

- Online Resource -> Linkage Repeatable element. First one should be a direct access URL if there is one. Add repeating elements for informational Web page, organization main Web page, etc.

(Resource) Fields sub-section - Entity and Attribute Information

- Label (change the synchronized default to something more descriptive of the Entity)
- Entity Type -> Definition
- Entity Type -> Definition Source
- **For each field** (Attribute):
 - Label
 - Definition
 - Definition Source
 - ONE of Range Domain -> Minimum AND -> Maximum
 Codeset Domain -> Name AND -> Source

Unrepresentable Domain

OR

One or more Enumerated Domain, including for each

-> Value, ->Definition, ->Definition Source



Appendix IV: Pick lists for NJGIN

A. ISO 19115 Topic Category codes¹: For all metadata records, include one of the following ISO Topic Category codes (text), which expresses the Primary Theme of the data set, map, service, or application. In the ArcCatalog Editor, this entry is a check box; the keyword and the Thesaurus entries are made automatically by the editor and exporter. Numeric (three digit numbers as text) codes are provided for reference only.

Theme Keyword Thesaurus: ISO 19115 Topic Category

Theme Keywords:

- **biota 002** for naturally-occurring flora and fauna, such as wildlife, biological sciences, ecology, wilderness, sea life, wetlands, habitats
- **boundaries 003** for administrative and political boundaries, i.e. legal land descriptions
- **climatologyMeteorologyAtmosphere 004** for atmospheric processes and phenomena, such as cloud cover, weather, atmospheric conditions, climate change, precipitation
- **economy 005** for economic activities or employment, such as labor, revenue, commerce, industry, tourism, ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of minerals, oil, gas
- **elevation 006** for height above or below sea level, such as altitude, bathymetry, digital elevation models, slope, and products derived from the preceding
- **environment 007** for environmental resources, protection, and conservation, such as pollution, waste storage and treatment, environmental impact assessment, environmental risk, and nature reserves
- **farming 001** for agriculture and farming, including the rearing of animals or cultivation of plants. For example, irrigation, aquaculture, herding, pests and diseases affecting crops and livestock
- **geoscientificInformation 008** for geological, geophysical, and other earth science information, such as minerals, rock structure, rock composition, rock origin, earthquakes, volcanic activity, landslides, gravity, soils, permafrost, hydrogeology, erosion
- **health 009** for human health and disease, health services, human ecology, and safety, such as human disease, human illness, factors affecting health, hygiene, mental and physical health, substance abuse

¹ Derived from *ISO Draft International Standard: Geographic information -- Metadata (ISO/DIS 19115), 2001, Section B.5.27 MD_TopicCategoryCode<<CodeList>>* (pp. 85-86); *Creating and Using Metadata Services, 2002, ESRI, Chapter 4 – Publishing metadata in ArcCatalog; and NOAA EDM ISO 19115 and 19115-2 CodeList Dictionaries - MD_TopicCategoryCode* at https://geo-ide.noaa.gov/wiki/index.php?title=ISO_19115_and_19115-2_CodeList_Dictionaries#MD_TopicCategoryCode. Numeric domain codes are from https://geo-ide.noaa.gov/wiki/index.php?title=ISO_Topic_Categories.

- **imageryBaseMapsEarthCover 010** for base maps, such as land cover, topographic maps, classified and unclassified images.
- **intelligenceMilitary 011** for military bases, structures, and activities, such as barracks, training grounds, military transportation, military information collection
- **inlandWaters 012** for inland water features and drainage systems, such as rivers, glaciers, salt lakes, water use plans, dams, currents, floods, water quality, hydrographic charts
- **location 013** for positional information and services, such as addresses, geodetic networks, postal zones and services, control points, place names
- **oceans 014** for features and characteristics of salt water bodies excluding inland waters, such as tides, tidal waves, coastal information, reefs
- **planningCadastre 015** for land use, such as zoning maps, cadastral surveys, land ownership
- **society 016** for characteristics of societies and cultures, such as natural settlements, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, crime and justice, recreational areas and activities, social impact assessments, census information
- **structure 017** for man-made construction, such as buildings, museums, churches, factories, housing, monuments, and towers
- **transportation 018** for transportation networks, the means and aids for conveying people and goods, such as roads, airports, airstrips, shipping routes, tunnels, nautical charts, vehicle or vessel location, aeronautical charts, railways
- **utilitiesCommunication 019** for energy, water, and waste systems, and communications infrastructure and services, such as hydroelectricity, geothermal, solar, and nuclear sources of energy, water purification and distribution, sewage collection and disposal, electricity and gas distribution, data communication, telecommunication, radio, and communication networks.
- **extraTerrestrial** for region more than 100 km above the surface of the Earth
- **disaster** for information related to disasters. Examples: site of the disaster, evacuation zone, disaster-prevention facility, disaster relief activities.

B. Content Type codes for Resource Description <resdesc>

Use **EXACTLY ONE** of the following entries, **exactly** as shown. In the ArcCatalog Editor, this is a check box.

- Live Data and Maps
- Downloadable Data
- Offline Data
- Static Map Images
- Other Documents
- Applications
- Geographic Services
- Clearinghouses
- Geographic Activities

C. NJ Framework data layers keywords Use one of these only if the subject applies, your organization is the authoritative source, and the data originate with your organization (not copies of data from elsewhere). Put in a separate section, with Theme Keyword Thesaurus name “NJGIN”

- **njfw_geocontrol** Geodetic control
- **njfw_orthophoto** Geo-referenced images of the Earth’s surface
- **njfw_boundaries** Boundaries of federal, state, local, tribal governments as reported/certified to the US Census Bureau.
- **njfw_cadastral** Geographic extent of right, title and interest in real property (tax parcels, zoning, easements, etc.)
- **njfw_hydro** Surface water features
- **njfw_elevation** Geo-referenced digital representations of vertical position above or below a datum surface
- **njfw_transport** Geographic locations, interconnectedness, and characteristics of the transportation system
- **njfw_critical** Locations of the following:
 - Emergency Operations Centers
 - Police Stations
 - Fire Stations
 - Emergency Medical Services Stations
 - Coverage Areas for the above
 - Hospitals
 - Schools
 - Colleges and Universities
 - Day Care Facilities
 - Government Buildings
 - Power Generating Plants
 - Power Substations
 - Armories
 - Military Sites
 - Communication Towers
 - Telecommunication Sites
 - Utility Transmission Lines
 - Sports Arenas / Stadiums
 - TCPA Sites
 - SARA Sites
 - Ingestion Zones
 - Prisons
 - Evacuation Routes
 - Drinking Water Intakes
 - Sewage Pumps
- **njfw_lulc** Land use and land cover conditions

D. Tags for Federal Project Open Data (POD) (enter in Theme Keywords)

- **public** data are available or could be made available to the public
- **restricted public** available under certain use restrictions
- **non-public** data not available to the public

ArcGIS MD for AGOL from scratch



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Change History

Version 1.6 released 22 October 2018 - Changes to Editing in ArcCatalog to reflect NJGIN Core. Move Metadata Importer tool help to Things to Remember. Other editorial changes.

Version 1.4 released 29 August 2018 - Changes to Appendices I, IV, and V. Expanded ISO Topic Category list. Various editorial changes, including simplified workflow.

Version 1.2 released 12 June 2018 - Re-ordered some material. Moved use of Metadata Importer tool to Appendix I. Expanded use of XSLT Transformation tool.

Version 1.1 released 17 May 2018 - Added use of XSLT Transformation tool; edits to Appendix information

