

ArcGIS Pro Metadata for ArcGIS Online, FGDC Style, from Scratch

Version 1.0

https://geoapps.nj.gov/njgin/documents/MD_ArcGIS_from_scratch_using_Pro_for_AGO.pdf

This document is intended to help data and metadata providers who contribute to the State of New Jersey ArcGIS Online / Open Data site that is part of the New Jersey Geographic Information Network (NJGIN), and to partner sites. As of Fall 2022, this site is set to use FGDC *style* ArcGIS metadata.

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Summary

- ❖ Set up tools: Configure ArcGIS Pro
- ❖ 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 AGO

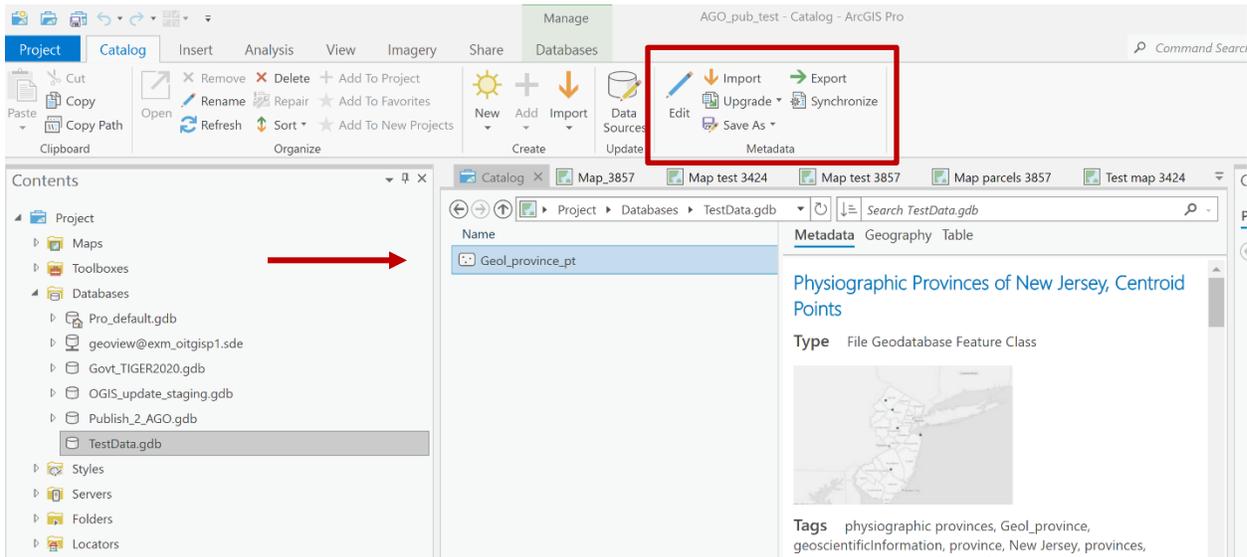
Things to Remember

- ❖ 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, Using ArcGIS Pro](#). There are several very important differences in workflow.
- ❖ 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**? NJOGIS has a downloadable toolbox for Pro. Email to njgin@oit.nj.gov for instructions.
- ❖ For submissions of metadata to ArcGIS Online, a cleaned-up record is important. See Section I, *Producing Metadata for ArcGIS Online*.

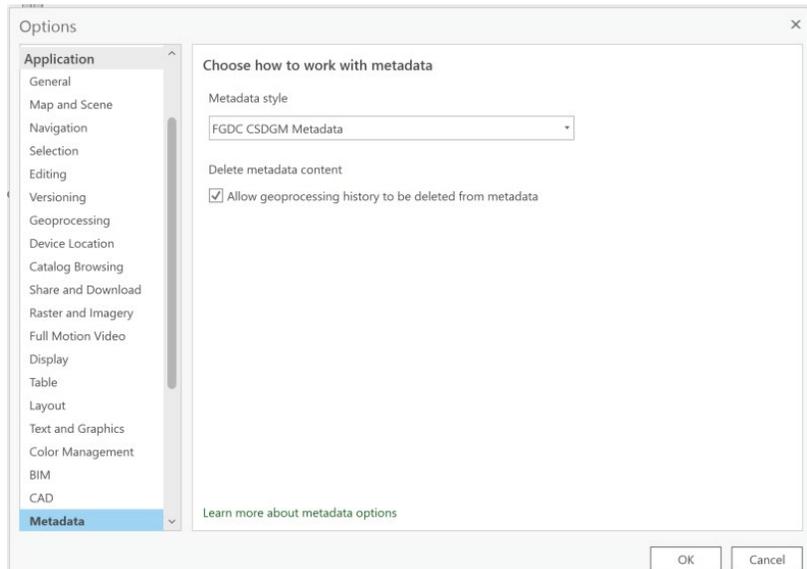
Step by Step Instructions

A. Essential tools - set up in preparation

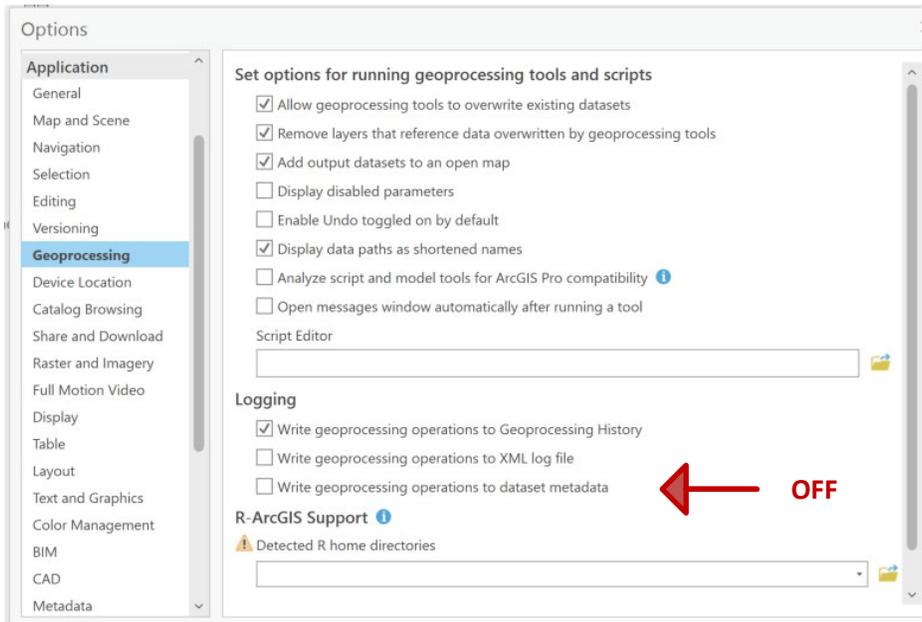
1. **These instructions are written for ArcGIS Pro 2.9.** We have not been able to test yet for ArcGIS Pro 3.
2. **Remember that whatever object is highlighted in the Catalog** tab of the Catalog view, will be active, and visible in Details panel. Its metadata will be visible in *Metadata* tab and will be opened for editing if you click the Edit button in the ribbon Metadata section.



3. **Set up ArcGIS Pro for FGDC style metadata.** First set the Metadata style at File -> Options -> Application -> Metadata. In the same form, check ON to allow geoprocessing history to be deleted.



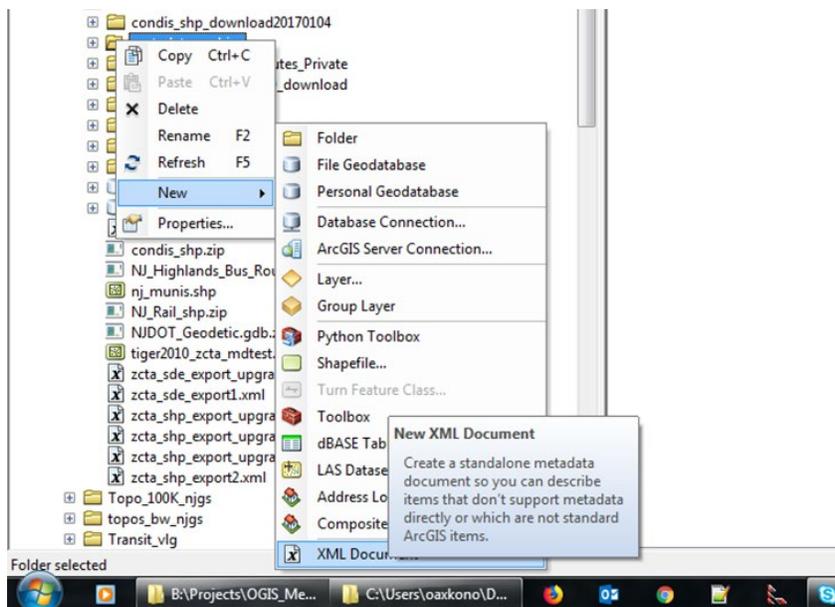
Next, set the application to NOT write geoprocessing steps to the metadata, at File -> Options -> Application -> Geoprocessing:



4. **ArcGIS Pro Help for using the Metadata Editor to produce FGDC CSDGM style metadata:** There are various useful help topics in the web help under Data -> Data -> Metadata. The one you are most likely to need repeatedly is *Create FGDC CSDGM metadata*. You might want to “Favorite” that one. The path from the Pro ? button is a bit different.
5. For advanced work on metadata, there are some optional tools listed in Appendix V.

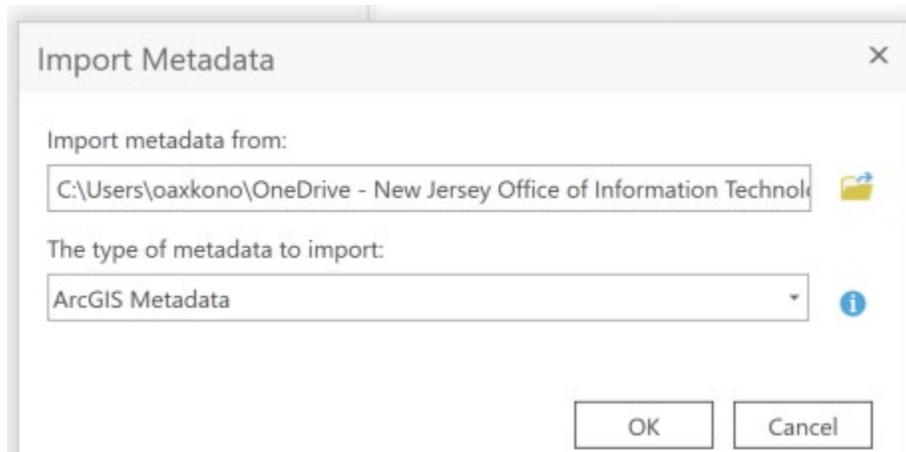
B. Gather information about the data set

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, which is easiest to do in ArcCatalog. 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 either in Pro or on the ArcCatalog Description tab. If there is extensive information there, back it up to a standalone xml.
 - a) **In Pro**, use Catalog view -> ribbon section Metadata -> Save As -> Save As XML -> All Content.
 - b) **In ArcCatalog**, create a blank xml (see screen shot below) and use the ArcCatalog Metadata Importer tool (in Conversion tools -> Metadata; looks like a hammer) to copy the metadata to the target blank xml.



C. Template If several data sets from the same organization need metadata, it is useful to create a generic record (in ArcGIS 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. Write a metadata record for the first data set with just the common information in it. See details below on Metadata Editing in ArcGIS Pro.
2. Make sure the first data set is still highlighted in the Catalog tab after closing the Metadata Editor. In the Pro ribbon section *Metadata*, choose *Save As -> Metadata Template*; save the output xml in a convenient location with a distinctive name. Then go back to editing the metadata attached to the data set, making a complete metadata record for that data set.
3. For second data set that has no metadata yet, highlight it in the Catalog tab. Then on the Pro ribbon section *Metadata*, choose *Import*. Browse to choose the template xml created above. **Set the type of metadata to import to *ArcGIS Metadata*.**

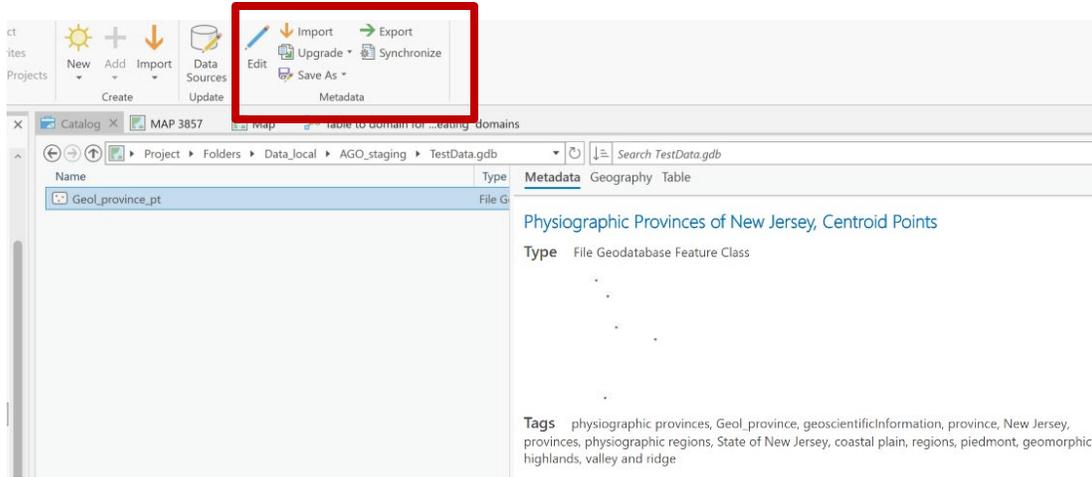


D. Synchronize This process will draw information from the data and put it in the ArcGIS format xml. Warning: synchronizing in Pro will obliterate the metadata Title entry. Save the contents of Title somewhere else if you intend to re-use them.

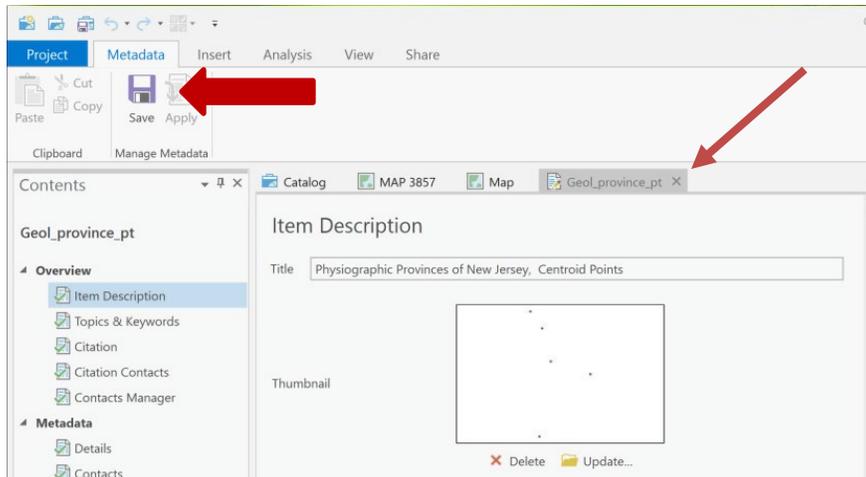
1. Highlight the correct data set in the Catalog tab.
2. In the ribbon section Metadata, use the Synchronize button.

E. Examine the results.

F. Metadata Editing in ArcGIS Pro. In Catalog view, highlight the data set in the Catalog tab. The metadata should be visible in the Metadata tab of the Details panel, and the ribbon should show the Metadata section. Start the Metadata Editor by clicking the Edit button on the ribbon. The Editor opens in a new tab in the Details panel.



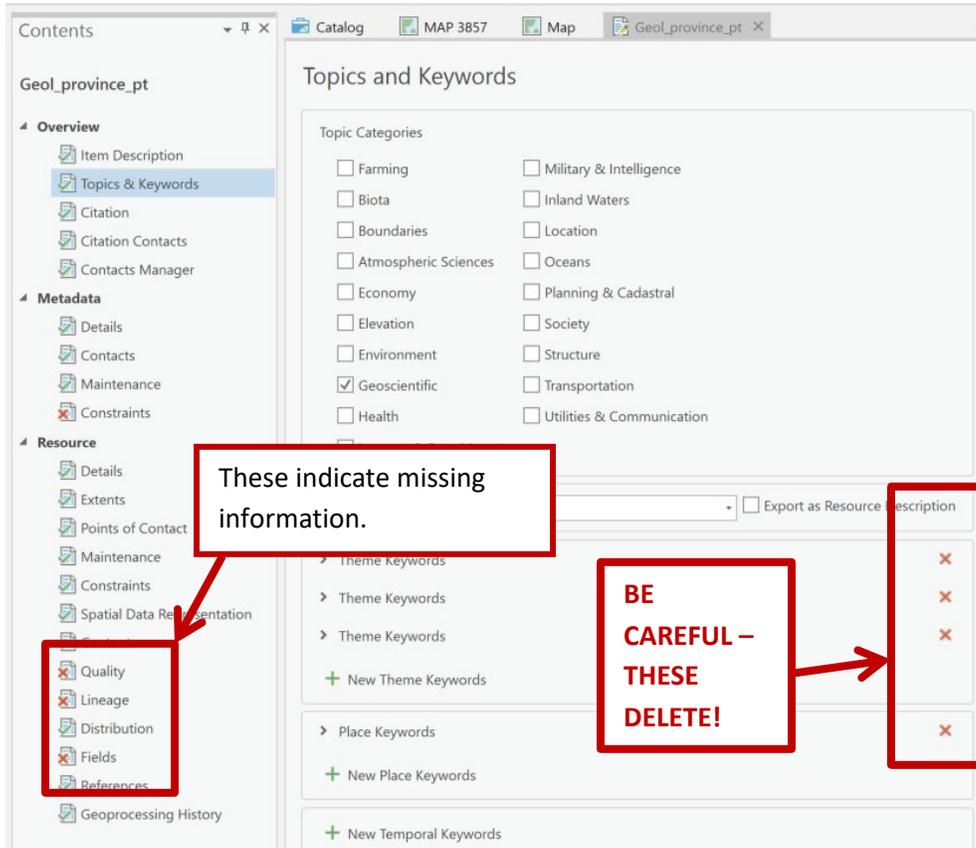
The ArcGIS Metadata Editor in Pro works much like that in ArcCatalog but with a slightly different appearance. One important difference is that you can save your work without closing the Editor. Do so often to avoid losing work. To exit the Editor, close the tab in the Details panel.



Most of the manual entry elements required for NJGIN Core are listed below. More detailed lists of elements and contents for NJGIN Core (metadata “lite”) and for full documentation can be found in lists published by NJGIN, and in Appendices to this document.

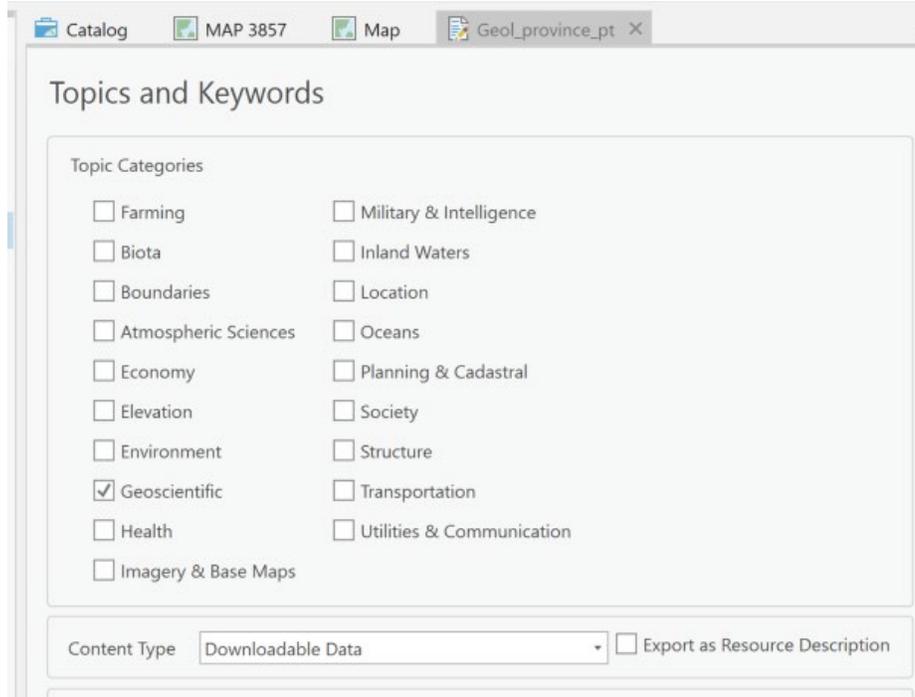
To cancel bad edits, close the Editor tab without saving, to revert to the way the metadata record was the last time it was saved.

IMPORTANT: Be careful which red x you click on!



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 ArcGIS Pro 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 from NJGIN for state agencies. If a liability disclaimer should appear on the AGO 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 Pro during metadata 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, or at most, two. Do not use *Boundaries* unless the data set is administrative or political boundaries, such as municipal boundaries or voting districts. See Appendix IV for definitions.

7. **Content Type:** Pick from the list.



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,) unless the complete set is there already. The first time you save keywords they should all be added, but if you then add keywords, they may need to be added to Tags manually.
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. 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:** fills in automatically. If edited manually, must be updated manually thereafter.
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:** Include Originator and Publisher, then add anyone else who should receive credit/thanks (partners, funding sources, etc.)
19. **Temporal Extent (Time Period of Content date(s)):** in the Pro Metadata Editor, create a **new Extent** section, separate from the Extent section for bounding coordinates. **Don't add this information to the same Extent section that contains the 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. **Warning:** although the editor looks as if the geographic extent for searching could be entered here, it cannot; the underlying xml will not be created correctly and won't work in AGO. If bounding coordinates are still needed, go back to Overview -> Item Description.
20. **Maintenance [and] Update Frequency:** pick the appropriate choice. Unless there is a process in place for formal change detection/reporting, editing, and publishing, don't use *as needed*.
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 NJOGIS. In the Pro 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, it appears in two places in the Editor)
 - c) Distribution Liability Resource -> Constraints -> Legal Constraints -> Use Limitation. At NJOGIS, we refer the reader to Use Constraints, and put all the language there.
22. **Distribution Information:** In AGO 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 Pro Help topic *Create FGDC CSDGM 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 URL(s) for general program information, organization's main website, and the like (element is repeatable.) This one ends up in Section 1 – Identification Information of exported FGDC CSDGM metadata.

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

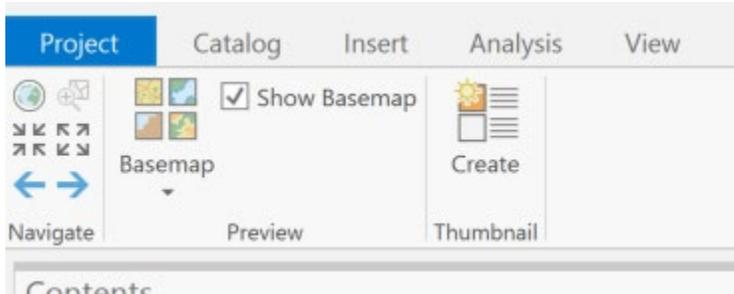
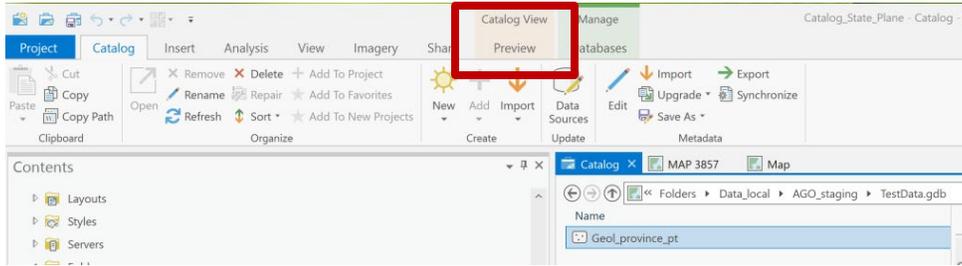
23. **Mandated creators, including NJ State vendors:** are required to provide more information than just NJGIN Core. There are separate help documents to assist with creating fuller metadata.
- a) **Appendix III lists the full documentation checklist elements that require manual entry** in the Pro editor. This is a shortened list because some of the required elements are filled in during metadata synchronization with the data.
 - b) **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.
 - c) **Help with sample language for Constraints and Distribution Liability** is available from NJGIN.
 - d) **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

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

H. Create thumbnail

1. Automatic via Pro (easy): Open Pro in Catalog View, select the data set in the Catalog View, Catalog tab. Preview the Geography in the Details panel. The *Catalog View Preview* supertab should appear above the ribbon.

Click on it to change the ribbon and expose the *Thumbnail* group.



Navigate the Geography map to a suitable scale. Add/change/remove basemap as seems best.

Click the Thumbnail *Create* button. Then click on the *Catalog* tab (next to the active Project tab) to get back to Catalog view. In the Details panel switch to the Metadata tab; the new thumbnail should be visible.

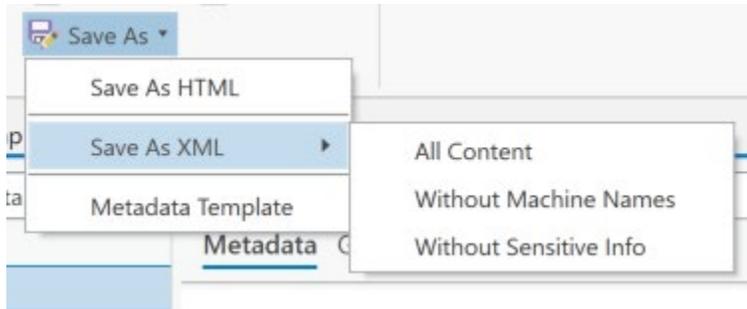
A branded, custom thumbnail is strongly recommended for vetted, authoritative data for ArcGIS Online. Further help if needed is available from NJGIN.

Any image can be used as a thumbnail; it need not be a map. Just use the correct shape (3:2 rectangle).

2. Custom map: Create a customized view of the data in a Pro map, and a custom image.
 - a) Set the layout Data Frame Properties to Size that will produce a 600 pixel wide by 400 pixel high image and will preview close to the final product. However, keep in mind that it is going to be displayed quite small in most cases. Working in a small dimension may help you produce a suitable thumbnail.
 - 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 Share -> Export Map, with options as follows:
 - d) *Save as* type PNG
 - e) *Image Size* 600 pixels high, 400 pixels wide
 - f) Once the PNG file has been created, switch to Catalog view, invoke the Pro Metadata Editor, then import the image by using the *Update* button under the thumbnail or placeholder. If further info is needed, see Pro Help instructions *Create a thumbnail*.

I. Producing metadata for ArcGIS Online:

1. **Incorporate a custom thumbnail or create an automatic thumbnail using Pro** (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 AGO item Tags (aka searchKeys), the first time you upload a metadata file. If you update existing metadata on AGO by submitting a new, edited xml, any additional Tags may have to be copied in manually.
3. **Check that Originator and Publisher are included in Credits:** This will enable them to show up in the AGO Item front page.
4. **Consider cleaning out “private” information:** several classes of information can be removed from the metadata record using the Metadata -> Save As -> Save As XML function. Pick your preferred choice by reading the pop-up tool tips.

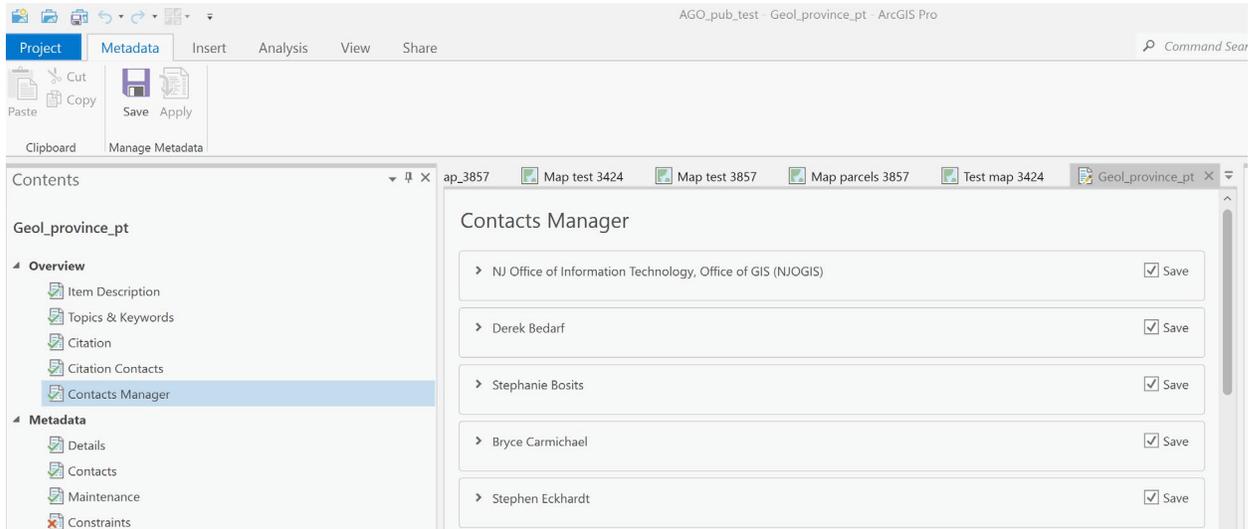


This produces a standalone ArcGIS xml that can be imported into association with the data set, and/or uploaded to AGO.



Appendix I: Features and Quirks of the ArcGIS Pro Metadata 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.

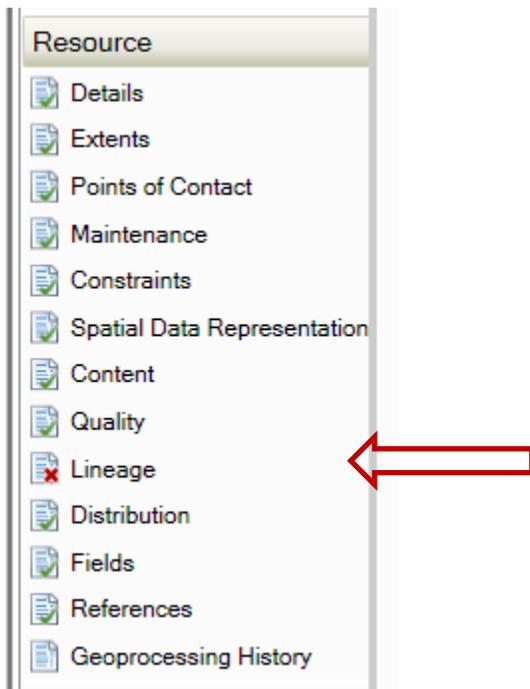


When you load a saved contact somewhere in the ArcGIS editor, don't forget to set/change the role for the new instance of use. If you are comfortable editing xml files in an xml or text editor, you can directly edit the file where the saved contacts are stored: at ArcGIS Pro 2.9 the file is located at: <user documents>/ArcGIS/Descriptions/contacts.xml

- ❖ **Synchronization** – we are done struggling with manually entering Spatial Reference information; in fact, the ArcGIS Pro Metadata Editor does not allow edits to it. If there is a proper spatial reference on the data, ArcGIS will read it into the metadata, in addition to a lot of other information also gets read in this way. 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 (spatial,) 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 stamp and scope

Date formats - In the Pro Metadata 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.

- ❖ **Error flags** (little red **x** in left panel of Editor) - A few of these may persist, even after completion of all the information necessary to produce FGDC CSDGM compliant metadata. The Pro validator has some bugs. 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 ArcGIS Pro Metadata Editor order. This is the minimum list of elements that will work well for cataloging. Fields marked # are filled during ArcGIS Pro metadata synchronization or automatically by the Editor but can be changed. Fields marked * commonly are 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

- 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, service, and/or information access URLs

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 ArcGIS Pro 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 list in standard element number order is available from NJGIN: [Metadata full documentation element checklist for typical GIS vector data for NJ, FGDC CSDGM](#)

❖ 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) Details sub-section

- Date Stamp if not captured automatically

(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 together with 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
 - Ordering Process Currency
 - Ordering Instructions (if special instructions are needed, or to explain secondary access)
 - Distribution Format -> Format Name
 - Distribution Format -> Format Version
 - Distribution Format -> Format Specification URL to format spec
 - Distribution Format -> Decompression Technique (only if applicable)
 - Distribution Format -> Information Content (explanation of service type or file type in words.)

- Digital Transfer Options -> Units of size = *M* (megabytes are required) if applicable
 - Digital Transfer Options -> Transfer Size if applicable
 - Digital Transfer Options -> Online Resource -> Linkage direct access URL for service consumption or download
 - **Digital Transfer Options** sub-sub-section (**Be careful to choose this correctly - it is the third one of three.**)
 - Online Resource -> Linkage URL for informational Web page, organization main Web page, etc.
 - Online Resource -> Name Descriptive name of resource
 - Online Resource -> Function from list, or *Empty*
 - Add New Online Resource elements for additional URLs
- (Resource) Fields** sub-section – Entity and Attribute Information -> Details
- 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 ArcGIS Pro Metadata Editor, this entry is a check box; necessary entries in the xml are made automatically by the Editor and exporter. Numeric (three-digit numbers as text) codes are provided for reference only.

The following list describes the intended use for each keyword.

- **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
- **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

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*. Numeric domain codes are from https://geo-ide.noaa.gov/wiki/index.php?title=ISO_Topic_Categories.

- **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.

The following two are not in the Editor Topic Categories but can be added as keywords.

- **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

Use one of the following entries. In the ArcGIS Pro Metadata Editor, this is a drop-down pick list.

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

C. 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



Appendix V: Optional Tools

Authors may find it useful to obtain content guidance documents for FGDC metadata, such as the *Metadata Quick Guide* and the *FGDC Content Standard for Digital Geospatial Metadata Workbook*.

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

-Notepad++, including the XML Tools plugin. This is free software under the GNU General Public License as published by the Free Software Foundation. The Compare plug-in also is useful.

-XML Notepad. This is a free download form Lovett Software. Set it to save files WITHOUT initial Byte Order Mark.



Questions may be directed to:

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