

GEMS SUBMITTAL CHECKLIST

Feb 26, 2024

ELEMENT

PATH/NAME (relative to .zip file)

Submittal package

REQUIRED	
<input type="checkbox"/> Map data and publication folder (described below)	
<input type="checkbox"/> Transmittal letter	
<input type="checkbox"/> Validation.html from Validate Database tool	
<input type="checkbox"/> ValidationErrors.html from Validate Database tool	
<input type="checkbox"/> Report from Geologic Names Check tool	

Map data and publication folder

REQUIRED	
<input type="checkbox"/> Map graphic (see Requirements)	
<input type="checkbox"/> FGDC-compliant metadata in valid XML	
<input type="checkbox"/> Map database folder (described below)	
AS NEEDED	
<input type="checkbox"/> Map pamphlet	
OPTIONAL	
<input type="checkbox"/> Other open-source format folder, e.g., GeoPackage, KML	

Map database folder

REQUIRED	
<input type="checkbox"/> .gdb file geodatabase	
<input type="checkbox"/> .mapx preferred (see Requirements)	
<input type="checkbox"/> Resources folder (described below)	
AS NEEDED	
<input type="checkbox"/> Map pamphlet	
<input type="checkbox"/> Base data folder (see Requirements)	
OPTIONAL	
<input type="checkbox"/> files for viewing data with free software, e.g., KML files, QGIS project, etc.	

Resources folder

REQUIRED	
<input type="checkbox"/> Symbolology as stylex, lyrx, mapx, etc..	
AS NEEDED	
<input type="checkbox"/> CMU graphic (include only if not present in any other element)	
<input type="checkbox"/> Figures (numbered as in report)	
<input type="checkbox"/> Tables (numbered as in report)	
OPTIONAL	
<input type="checkbox"/> Formatted DMU or LMU document	

¹Standard fonts are those installed with ArcMap or ArcGIS Pro, any of the FGDCGeo special symbol fonts. Check the distributor's licensing for any restrictions on use or sharing of other fonts.

Screenshots from an example submission package directory tree

Folder - contents on right

Required

Optional

ST_YYYY_MapArea_VER-submittal

- ST_YYYY_MapArea_VER
 - ST_YYYY_MapArea_VER-database
 - ST_YYYY_MapArea_VER-geopackage

ST_YYYY_MapArea_VER

- mapXYZ_namescheck.xlsx
- mapXYZ-transmittalletter.docx
- mapXYZ-Validation.html
- mapXYZ-ValidationErrors.html

zip this entire folder for submission

outputs from Geologic Names Check and Validate Database tools

ST_YYYY_MapArea_VER-submittal

- ST_YYYY_MapArea_VER
 - ST_YYYY_MapArea_VER-database
 - ST_YYYY_MapArea_VER-geopackage

ST_YYYY_MapArea_VER-database

ST_YYYY_MapArea_VER-geopackage

mapXYZ.pdf

mapXYZ-browse.png

mapXYZ-metadata.xml

mapXYZ-pamphlet.pdf

if submitting an open-source version of the database, include it as a folder within

include only if one already exists

ST_YYYY_MapArea_VER-submittal

- ST_YYYY_MapArea_VER
 - ST_YYYY_MapArea_VER-database
 - mapXYZ.gdb
 - mapXYZ-basedata
 - resources
 - ST_YYYY_MapArea_VER-geopackage

mapXYZ.gdb

mapXYZ-basedata

resources

mapXYZ.mapx

mapXYZ.qgs

mapXYZ-pamphlet.pdf

gdb does not have to be named ST_YYYY_MapArea_VER

ArcGIS Pro map file (.mapx) preferred

optional free viewing format

ST_YYYY_MapArea_VER-submittal

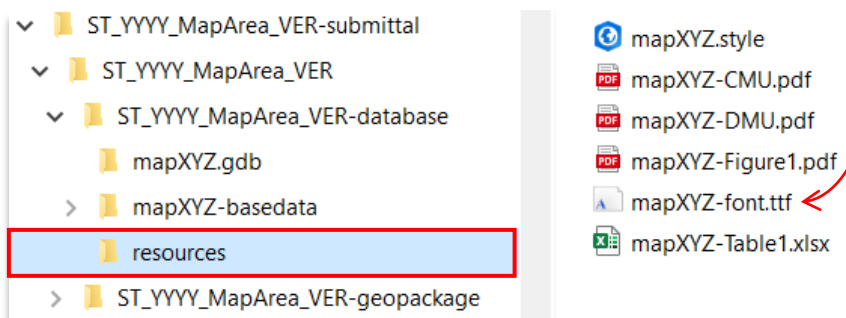
- ST_YYYY_MapArea_VER
 - ST_YYYY_MapArea_VER-database
 - mapXYZ.gdb
 - mapXYZ-basedata
 - resources
 - ST_YYYY_MapArea_VER-geopackage

mapXYZ-basedata

resources

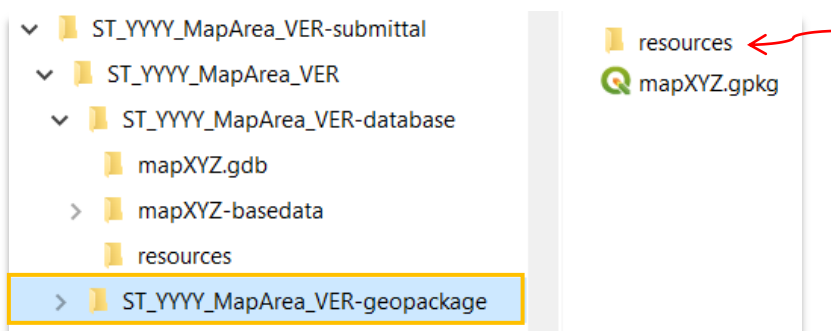
mapXYZ-basedata.gdb

Include if not published elsewhere. If data sources helped interpret geology, list as Sources in metadata.



see the footnote
below checklist about
fonts

figures and tables should
be machine parseable -
not rasters - if not
already formatted as such
in mapXYZ-pamphlet.pdf



include necessary resources
in whatever organization
makes sense

Further guidance from *U.S. Geological Survey National Cooperative Geologic Mapping Program, 2020, GeMS (Geologic Map Schema)—A standard format for the digital publication of geologic maps: U.S. Geological Survey Techniques and Methods, book 11, chap. B10, 74 p., <https://doi.org/10.3133/tm11B10>*.

Elements of map publication, database archive, and Resources folder. Please note that certain elements noted in this USGS publication are no longer required (e.g., the shapefile). Therefore, please refer to the [Requirements](#) document for the current guidance and requirements.

The Database Design 11

Table 3. Elements of a digital geologic map publication named “mapXYZ”.

[Abbreviation: FGDC, Federal Geographic Data Committee]

Filename	Comments
Required elements	
mapXYZ.pdf	Map graphic (high resolution; publication quality)
mapXYZ-browse.png (or .jpg, .tif)	Browse graphic or thumbnail of map (should be a small file)
mapXYZ-metadata.xml	FGDC-compliant metadata for the overall map publication; additional inclusion of metadata in a more readable form (for example, .txt, .html) as a supplementary file is recommended
mapXYZ-gdb.zip	Zip archive containing the map database and other elements of the digital data package (see table 4 below for contents)
mapXYZ-open.zip	Open shapefile version of database (see “Shapefile Version of the Database” section below for contents)
As-needed elements	
mapXYZ-pamphlet.pdf	Map pamphlet (fully formatted; publication quality)

Table 4. Required, as-needed, and optional contents of the zip archive (that is, the “mapXYZ-gdb.zip” file) that contains the database and other elements of the digital data package for a geologic map publication named “mapXYZ”.

[Abbreviation: FGDC, Federal Geographic Data Committee]

Filename	Comments
Required contents	
mapXYZ.gdb (folder)	Folder that constitutes the map database
mapXYZ.mxd	ArcMap document stored using relative pathnames and including relevant macros
mapXYZ-metadata.xml	FGDC-compliant metadata for the overall map publication (copy of file referenced in table 3 above)
resources (folder)	Folder of digital resources that accompanies map database in a digital geologic map publication (see table 5 below for contents)
As-needed contents	
mapXYZ-pamphlet.pdf	Map pamphlet (copy of file referenced in table 3 above)
mapXYZ-base.gdb (folder)	Folder with base-map data (required if not published elsewhere)
Optional contents	
mapXYZ.pmf	ArcReader document

Table 5. Required, as-needed, and optional contents of the resources folder that accompanies the database in a digital geologic map publication named “mapXYZ”.

[Abbreviation: FGDC, Federal Geographic Data Committee]

Filename	Comments
Required contents	
mapXYZ.style	ArcGIS .style file that contains the area, line, and point symbols used to symbolize the map. Must include all symbols specified in database. It is recommended that the .style contain a subset of the symbols in the FGDC cartographic standard; please see Resources on the GeMS website (https://ngmdb.usgs.gov/Info/standards/GeMS/) for a suggested master .style file. Note that a .style file is not necessary if Esri cartographic representations are encoded in the database itself
fonts (.ttf or .otf files)	All nonstandard font files that are used for special characters or are referenced by the line or point symbols in the .style file
As-needed contents	
CMU (as .pdf or .png file)	Graphic representation of the Correlation of Map Units (CMU) diagram. Needed only if (1) CMU is present in report and (2) CMU is not encoded within the map database
figures (.png, .pdf, .jpeg, .gif, or .tif files)	Must be numbered as in report; may be included as individual files or gathered into a folder
tables (.dbf, .ods, .xls, or other file formats)	Must be numbered as in report; may be included as individual tables or gathered into a folder
Optional contents	
DMU (as .pdf or .docx file)	Additional document for Description of Map Units (DMU) (fully formatted, including headings)