

Guidance for submitting GeMS-compliant map databases

NOTE: This guidance was developed by staff associated with the National Geologic Map Database (NGMDB), to assist State, Federal, and University authors in: (1) preparation of GeMS-compliant GIS files, and (2) submittal for publication and for repositing in the NGMDB's Trusted Digital Repository.

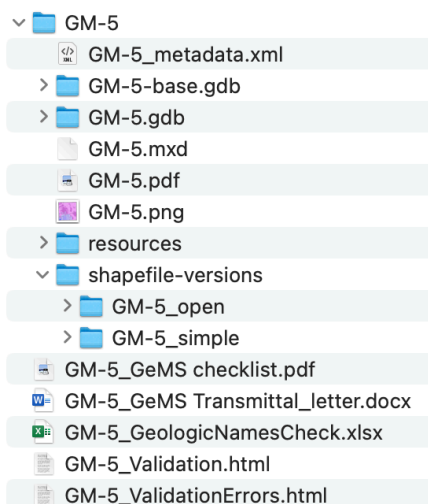
The GeMS website (<https://ngmdb.usgs.gov/Info/standards/GeMS/>) provides links to the (ArcMap and ArcGIS Pro) scripts for checking your map database for GeMS compliance. These scripts check for topology and content adherence to the GeMS standard and provide possible matches between Geolex and the formal geologic names used on your map. We recommend that you execute the scripts iteratively, as you build the map database, rather than waiting until just before submitting the files.

The GeMS zip file should be submitted via the NGMDB's Connect web site (<https://ngmdb.usgs.gov/connect/>). If you don't have a login, please request one via ngmdb@usgs.gov. If you have technical questions about GeMS, please contact us at gems@usgs.gov. If you have questions about the submittal process, please contact us at ngmdb@usgs.gov.

Users will download these GeMS files, and so we strive to provide some commonality among them, hence the guidance given below. That commonality also will, in the long term, help map authors, their agencies, and the NGMDB. As you prepare your GeMS files, please monitor the total size when bundled into a zip file. It's been our experience that GeMS zip files for typical geologic maps of 24K and 100K scale are in the range of 20-50 MB. If your zip file exceeds the NGMDB's current filesize upload limit (100 MB), please contact us at ngmdb@usgs.gov, to determine how to submit the file.

Please follow this guidance, and contact us with any questions or concerns:

- The submitted GeMS files must be contained in a single .zip file (i.e., no zip files within that zip file).
- When preparing your submittal, please consult the details provided in the GeMS documentation (<https://pubs.er.usgs.gov/publication/tm11B10>); see especially Tables 3, 4, and 5, but note that those Table's specification for several zip files was intended for data publications, whereas here, we are specifying a requirement for an archival, single zip file. Also, please use the Checklist (at the GeMS site, under "Resources"); it shows the up-to-date list of GeMS-related files to include.
- Regarding how the zip file should be named and organized, any filename is permissible, but we recommend this convention: <State postal code>_<Federal Fiscal Year of award>_<a name for the map>_<version number>.zip. Syntax for the version number is suggested to be <major>-<minor>. For example, "VA_2020_Fairfax_2-1.zip".
- Any file organization is permissible, but we recommend a simple structure as shown below. This structure includes the base map and the simple version of the shapefile, although neither is required:



- If you include photos, charts, and graphics in the resources directory, we suggest they be of moderate resolution (e.g., 150 dpi) so that file size can be kept to a minimum without sacrificing readability.
- If your GeMS package greatly exceeds the above-mentioned “typical” size (20-50 MB), we recommend that you check to see if:
 - the geodatabase has been [compacted](#). Compacting cleans storage and unused space that results from frequent editing and can greatly reduce the file size.
 - the print-quality PDF is extremely large (perhaps it exceeds 300 dpi).
- If the base map you used is customized and not available online, and you wish to include it in the submittal but the zip file exceeds our 100 MB limit, please contact us at ngmdb@usgs.gov and we will arrange to upload it using a method other than the NGMDB Connect site.