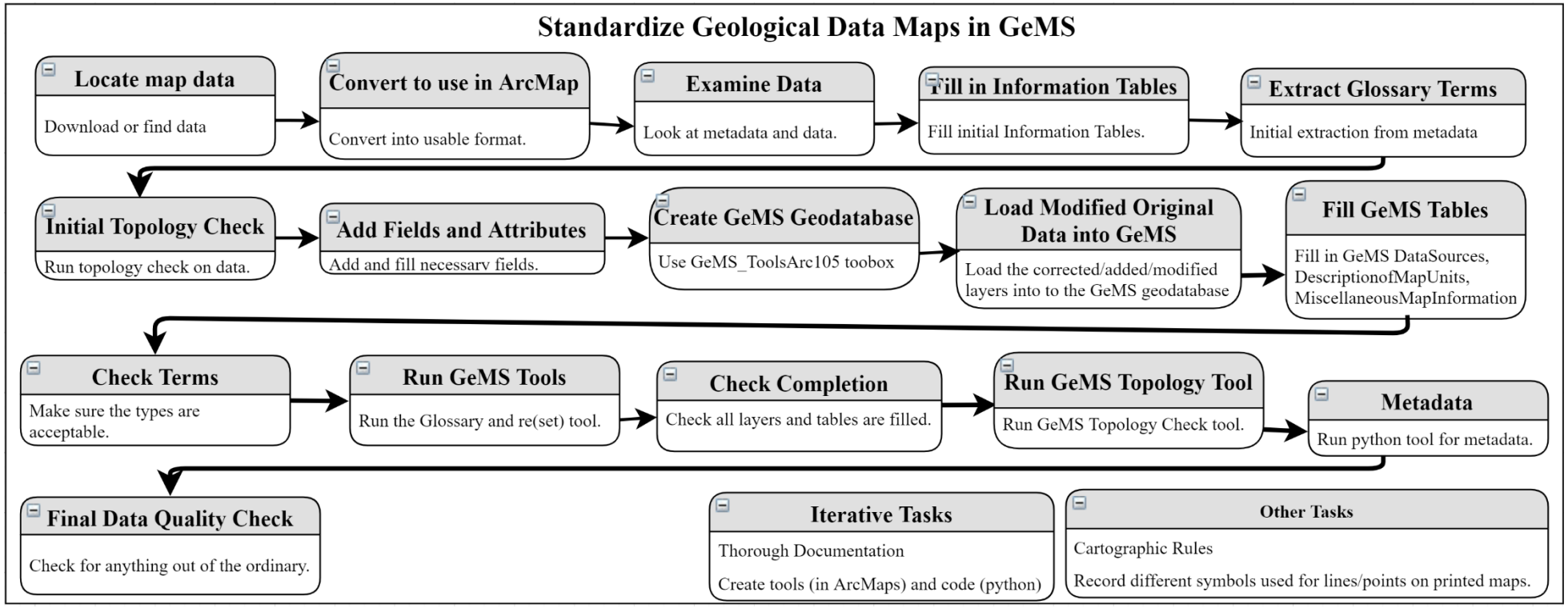
Cheat sheet: GeMS Workflow



Workflow Step	Basic Steps	Tools/Scripts/Templates
Locate Data	• Create folders to house initial data, edited data, and eventually GeMS data. • Download from WGNHS website or • Find in past project folders	
Convert to use in ArcMaps	If in .E00 format: • Use conversion tool • Create a new file geodatabase (with correct spatial information) and within that create a new feature dataset. • Import the converted shapefiles into the geodatabase/feature dataset.	• Import from E00 (Conversion) (tool) • Create new File Geodatabase • Create new Feature Dataset
	If already in a geodatabase: • Create a new file geodatabase (with correct spatial information) and within that create a new feature dataset. • Import the other geodatabase files into the geodatabase/feature dataset.	• Create new File Geodatabase • Create new Feature Dataset
Examine Data	• Extract metadata from larger metadata txt (if necessary). • Write down the initial data type in the progress table.	• Run in-house extract from metadata script
Fill in Information Tables	• Fill in tables (MiscellaneousMapInformation, DataSources, and DescriptionofMapUnits)	• Templates: DescriptionofMapUnits, DataSources, MiscellaneousMapInformation
Extract Glossary Terms	• Look at/record glossary terms and map symbols • Considering the full collection of terms from several maps, decide which type terms to use, and for each what will be the glossary entry	• Might use glossary terms excel template
Initial Topology Check	• Run initial topology check of feature dataset new topology. (Select lines and polygon) • Load rules from template folder (TopologyRules.rul) • In an editor session, open the Error Inspector tool	• Add New>Topology… to feature dataset tool (right click on feature dataset) • Load TopologyRules.rul in New>Topology… tool •  Error Inspector tool

	• Go through each error and correct as needed • Save editor session	
	Check line directions: • Check that lines are going the same direction as PDF map • Use long hash right lines for lines that have designs on the side (like cutbanks) and a line with an arrow for lines like drumlins • Flip line where necessary: • 1 line: in editor session click on line until vertices show, right click and select Flip • Multiple lines: select all lines that need to be changed and use the Flip Line (Editing) Tool	• Symbology • Editing Session right click on line > Flip tool • Multiple lines: Flip Line (Editing) tool
	Lines to Points: • Check if any lines need to be changed to points (line to Orientation Points or Direction Points) • Select lines that need to be turned into points and export as its own layer • Add bearings to lines and put into a rounded azimuth column • Convert line features into point layers	• Select by Attributes… (example: Type = 'surface slope of stream plains') • Data > Export Data… • Add Geometry Attributes (Data Management) Tool • Field Calculator for Azimuth in Python Parser: round(!BEARING! , 0) • Feature to Point (Data Management) Tool
Add Fields and Attributes	• If there are coded domains, run the Decode Coded Domains tool • Join all these tables to their layer and fill in columns with the text that matches the previous symbol. Unjoin and remove tables when done • Fill in and run the Add and Populate Columns script • For layers that are not in this script add necessary columns • Fill in any columns that are not the default value • In types column, change from original value to the accepted term using field calculator(keep original value for PTTYPE or LTYPE GeMS column)	• Run Decode Coded Domains in-house tool • Join and Relates > Joins…>Join attributes from a table tool • Run Add and Populate Columns in-house Script • Use field calculator to change terms in type column (python sql script) also use when changing the default values to better match data

Create GeMS Geodatabase	• Use the Create New Database GeMS tool with extra features selected (as needed)	• GeMS Tools > Create New Database (select extra layers and the Add LTYPE and PTTYPE)
Load Modified Original Data into GeMS	• Right click on the GeMS layer and Load>Load Data • Input the edited data from editing geodatabase or excel tables • Match Target Field and Matching Source Fields (do not use columns that are empty from the editing geodatabase features or from excel tables)	• Load>Load Data for the Simple Data Loader tool
Fill GeMS Tables	• Fill in missing data as needed • Fill in DataSourceID column for all layers • Add DirectionPoints layer if necessary • Add MiscellaneousMapInformation table	• Use field calculator on DataSourceID column to fill in with the unique DataSourceID
Check Terms	• Check that the Type terms are acceptable	
Run GeMS Tools	• Run Glossary_Tool>List Glossary Terms tool • Run GeMS Tools>re(Set) ID values (2) tool to set the _ID for layers	• Glossary_Tool>List Glossary Terms tool • GeMS Tools>re(Set) ID values (2) tool
Check Completion	• Check that all columns are filled • Cannot progress until everything is correctly filled	
Run GeMS Topology Tool	• Run GeMS Tools>Topology check tool • Correct errors	• GeMS Tools>Topology check tool
Metadata	• Validate data with GeMS Tools>Validate Database • Correct errors • Open ArcCatalog and set Customize>ArcCatalog Options…>Metadata tab Metadata Style to FGDC CSDGM Metadata • Fill in necessary metadata (follow excel template) • Save regularly	• GeMS Tools>Validate Database • ArcCatalog Customize>ArcCatalog Options>Metadata>Metadata Style (FGDC CSDGM Metadata) • ArcCatalog>Description>Edit • Excel metadata template/reference
Cartographic Representation (time allowing)	• Create style.file • Add all map unit symbols and their RGB colors/styles for polygons and lines/points symbols	• Style Manager…>Styles…>Create New Style…

	• In Symbology Show: Categories>Match to symbols in style • Set Value field to type and Match to symbols in Style for the created style file • Apply changes • Right click on layer and select Save As Layer File… to the edit folder • Use the Add Representation (Cartography) tool for each layer to be represented by the saved layer file	• Symbology set Show: Categories>Match to symbols in style • Save As Layer File… • Add Representation (Cartography) tool
Final Data Quality Check	• Check that layers/tables/metadata are correct	•