Ten Steps for Creating Your First GIS Project

Once you have attended the Introduction to GIS in Public Health class, you will likely want to go back to your office and create a GIS project of your own. Hopefully you have several ideas of how you want to use GIS. The first step is to

① PICK A PROJECT
Select a topic that has only a few layers for your first project.

② FILL OUT THE 2 ASAP REQUESTS NECESSARY TO GET DATA AND SOFTWARE
Make sure you have completed ASAP requests for both GIS software and access to the GIS data library (M:\GISDATA for most people). There are 2 separate forms to fill out, not just one. Instructions are found on the GIS web page http://gisintra.dhss.mo.gov/start.htm.

③ ESTABLISH THE FOLDER CONNECTION IN ARCCATALOG TO M:\GISDATA
The first time you use ArcMap or ArcCatalog, you will need to establish a connection to the GIS data directory in ArcCatalog. Once you have received notification from ASAP that the connection to M:\GISDATA is complete, you're ready to get the connection established in ArcCatalog.

By default, the only folders displayed in ArcCatalog are local drives. If you need to use data from your network, or from a CDROM, you will have to establish a connection to these folders. For the GIS users in Jefferson City, the connection is always made as an M:\ drive letter. The following instructions are specific to users in Jefferson City:

Use the "Connect to Folder" icon to add a folder connection. Any folders or drive letters that available to you in Explorer are available for connection within ArcCatalog. Expand the connection to M: and then select the folder GISDATA. Folder connections are persistent, remaining available for use within ArcCatalog or ArcMap until you disconnect them.

IF YOU DO NOT HAVE AN M:\, DRIVE you may not have the proper permissions set up from within ASAP yet. Please contact GIS staff for assistance.

Once you have established a folder connection to M:\ GISDATA, you can take advantage of the templates and data files that are stored there.

④ READ THE README_1ST DOCUMENT FOUND UNDER M:\GISDATA
Take some time to review the document README_2nd_GettingStartedGISlibrary.doc that gives you an overview of the main data folders you will likely need for your GIS projects.

⑤ **LOOK AT THE SAMPLE TEMPLATES PROVIDED IN M:\GISDATA AND SELECT ONE THAT IS CLOSE TO THE GIS PROJECT YOU HAVE IN MIND SO YOU DON'T HAVE TO START FROM SCRATCH**

You do not have to start with a new blank page for your first map. There are a variety of templates already made for your use. These are located under M:\GISDATA\ArcMapTemplates. Use ArcCatalog to preview the various MXD files.

⑥ **OPEN ONE OF THE SAMPLE MXD FILES AND SAVE IT IN YOUR OWN DIRECTORY.**

If you have previewed MXD files as suggested in the previous step, you can simply double click on one of them while in ArcCatalog to open it in ArcMap. You do not have permission to save the MXD files back into this directory, so make sure you do a Save As to create your own copy. After you open the project in ArcMap, select File > Save As. Most users create a GISprojects folder (no spaces in the name) on their H:\ drive for this purpose. You can use your local drive, but unless you are doing your own backups, work done on your C:\ drive isn't backed up.

⑦ **PRACTICE LOADING ADDITIONAL DATA LAYERS FROM THE GIS DATA LAYERS.**

Depending on the sample template you have chosen, you may not need to add any more data layers. If you've chosen a template with a lot of data layers and don't need them all, just right click on the layer and select Remove Layer.   Remember you can add additional layers either using the Add Data button   or by dragging the layers from ArcCatalog.

⑧ **IF YOU PLAN TO USE YOUR OWN DATA MAKE SURE IT'S PROPERLY FORMATTED**

When creating a map using some of your own data, it will likely be one of two types of data:
1) Address data representing something like clients or facilities
2) Aggregated data, generally by county, that you want to show as shaded polygons on a map. (If you work for a local public health department, you may choose ZIP codes boundaries instead.)

Address data is most easily submitted to GIS staff for geocoding. There are geocoding tools in ArcMap (StreetMap), but the methods for dealing with addresses that don't match are clunky and therefore frustrating.

Before you submit your data to GIS staff, make sure it meets the proper address formatting standards. Basically address components should be separated into individual columns. It is fine to have other data in the table besides just the address information.

Satellite-clinic Table.xls

	A	B	C	D	E	F	G
1	Agency Number	Satellite .	Satellite Clinic	Address	City	State	Zip
2	60300		Platte County Health Department	212 Marshall	Platte City	MO	64079
3	10500		Hamilton City Hall	200 S. Davis	Hamilton	MO	
4	10500		Polo Christian Church	301 Main St.	Polo	MO	
5	11200		United Methodist Church	312 E. 7th	Mound City	MO	64470
6	51400		Noel Housing	624 Johnson Dr.	Noel	MO	64854
7	51400		Tyson Chicken Plant	Hwy 59	Noel	MO	64854
8	51400		High School WIC	110 Mustang Dr.	Anderson	MO	64831
9	60500		Lawson WIC Clinic	D Highway	Lawson	MO	64062

More detailed guidelines for preparing addresses for geocoding can be found under M:\GISDATA\GISdocumentation\Geocode - AddressData_BestPractices.doc.

If you need to bring a table of information in, you will be doing a join to the county boundary layer. An example of a join was an exercise in the Introduction to GIS in Public Health course material. Please refer to that document for details on joining.

The data you plan to use for joining in GIS needs to be in a particular format. Data should be very plainly formatted with the first row containing the field names you intend to use.

BEFORE

	A	B	C	D	E	F	G	H	I
1	AGE OF THE POPULATION 60 YEARS AND OVER [100]						Source: U.S. Census - 2000		
2		Universe: Population 60 years and over							
3	[Based on a sample. Rounded data. Geographic areas are omitted if they do not meet the specified population threshold.]								
4			60 to 64 years:		65 to 84 years:		85 years and over:		
5	Geographic Name	Total:	Total	Percent of ≥ 60 Population	Total	Percent of 65 - 84 Population	Total	Percent of ≥ 85 Population	
6									
9	Adair	3850	800	0.2078	2590	0.6727	460	0.1195	
10	Andrew	3000	630	0.2100	2070	0.6900	300	0.1000	
11	Atchison	1640	290	0.1768	1090	0.6646	260	0.1585	
12	Audrain	5570	1130	0.2029	3870	0.6948	560	0.1005	
13	Barry	7280	1800	0.2473	4860	0.6676	610	0.0838	
14	Barton	2650	580	0.2189	1770	0.6679	300	0.1132	

AFTER

	A	B	C	D	E	F	G	H
1	COUNTY	TOTPOP	AGE60_64	PCT60_64	AGE65_84	PCT65_84	OVER85	PCTOVER85
2	ADAIR	3850	800	0.2078	2590	0.6727	460	0.1195
3	ANDREW	3000	630	0.2100	2070	0.6900	300	0.1000
4	ATCHISON	1640	290	0.1768	1090	0.6646	260	0.1585
5	AUDRAIN	5570	1130	0.2029	3870	0.6948	560	0.1005
6	BARRY	7280	1800	0.2473	4860	0.6676	610	0.0838
7	BARTON	2650	580	0.2189	1770	0.6679	300	0.1132
8	BATES	3690	790	0.2141	2510	0.6802	390	0.1057

Additional details for formatting can be found under M:\GISDATA\GISdocumentation\Tip - DataFormat_BestPractices.doc.

⑨ **CALL GIS SUPPORT FOR ASSISTANCE, IF NECESSARY.**
Assistance is available through the GISsupport@dhss.mo.gov email address.

⑩ **MAKE SURE YOU SAVE YOUR WORK OFTEN; YOUR WORK IS NOT SAVED AUTOMATICALLY.**
ArcView does not automatically save your work like most other applications you use. You must get in the habit of doing a Save on a regular basis. If you get an error that you do not have permission to save a file in a particular location, you have likely skipped step 6 which instructed you to save the sample MXD file into your own directory.

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September 27, 2007