

Lab 3a: Data Prep for Green River lab

What: Download files described below for the lab next week. Answer questions embedded.
You'll be downloading:

- Collared DRG for our study region
- 1867 Plat maps
- 1940 Orthophotos
- 1990 DOQQ
- 2002 Orthophotos
- 2006 NAIP
- 2009 NAIP

Also, you will need to read this website about the Green River (<http://green.kingcounty.gov/wlr/waterres/streamsdata/watershedinfo.aspx?locator=0311>) and HC&C chapter 6. You are downloading really big files, so it will take a long time.

Due: Before class on Thursday 8 September.

Prepare: Download the files, unzip them, check your projections, and have questions answered before class Monday.

We will be working with data freely available from a server in Washington for this lab. The location you'll be working with is along the Green River, at 122.07 W, 47.315 N.

Part 1: Preparation

1. Determine what river the Green River drains into. Google Earth or Acme Mapper (Google it) may help with this. If it flows directly to base level without joining any other rivers, look around at where it enters Puget Sound and what rivers it is near. This is important because some of the data are organized by watershed. Write it here:

2. Determine county and 7.5 minute quad name. (Hint: use the ArcGIS file called USGS24Q to get the quad. You can find it with the link on Blackboard under Course Documents. Write your quad and county here:

Part 2: WAGDA

1. The first big data source we'll be using this week is WAGDA. Google it and learn about it. What is the website? What data are available? Add this to your data source spreadsheet.
2. The first thing we need is to get a digital raster graphic for the area. Remember, these are just scanned topo maps. Get this from WAGDA. You already know what type of data you want, so go about looking for data through the "Data" tab then the "Data by Type" link. What did you download? What format is it in? What is the projection?
3. Get the 2002 Puget Sound Orthophotography from WAGDA. There are a lot of these that you'll want and it's kind of hard to tell which ones because the river moves around so much. You'll need 10 files in total, they are listed below. Try clicking on the third red box to the lower right:

10TET654347 10TET654362
10TET669347 10TET669362
10TET684362 10TET699362
10TET714362 10TET729347
10TET729362 10TET744362

What is the projection of these data? What format?

4. Download the 2006 and 2009 NAIP files from WAGDA in the county mosaic. Be sure to get the right county (look back to your answers to part 1) and to get all the files you need. What files did you download? What are the extensions?
5. Get the 1990 DOQQ (a digital orthophoto quadrangle; the aerial photos of Oberlin in the projections lab were DOQQs). You'll need to look through the descriptions of the

photography data on WAGDA to figure out which one this is. There are four of them. What files did you download?

Part 3: River History Project

1. The older data we're working with is from the River History Project at the University of Washington. Look for the project (ask Uncle Google where it is) and see what data they have available. Make some notes here and add it to your data sources spreadsheet. What region are you working in? (This will be important for the rest of the downloads.)
2. You get to choose the datum you download these files in. We'll work in NAD83. What projection are the files going to be in?
3. Download the scanned and georeferenced 1867 plat maps for the region. What are these? Which ones did you download?
4. See if you can find any cool photos from when people made the plat maps and collected the aerial photos. Just because it's cool.
5. Download the 1940 orthophotos you need. These are premosaicked and divided up by quarterquad. So each quad (your DRG) is divided into NE, NW, SE, and SW. You'll need SE and SW for your DRG. What files did you download:

Part 4: Check data in Arc.

1. Extract all your files (unzip them) and open them in Arc. Should you use ArcMap or ArcCatalog? Why?
2. Assuming you opened them in the correct program, you can get them to all be open at the same time. They all should overlap with each other nicely, so check that to make sure they are projected. Make a list of the files below and what projection they are in:

If any of your files are missing projections, go back to the download page and figure out what the right projection is for them and make sure they are defined correctly. They all should have projection information either on the website or in the metadata for the file.

You may notice that your 1940 DOQs don't line up correctly. Check how the projection is defined and what it is supposed to be. If it is not working, redefine it (even if it looks like you're giving it the same definition). (Don't reproject, this is actually a definition problem.)

3. Reproject all your data to the correct UTM zone for NAD83. What projection did you use?
4. What year is your DRG? Check the collar to find out.