FNR 65 Lab 7

Music Festival, Part 1 – Acquiring Data

The BackBeat Music Group is looking at planning a music festival in Humboldt County. It is your job to gather all of the data, select a final location, and provide a preliminary environmental assessment of the site. In, "The Music Festival, Part 1 – Acquiring Data," you will navigate through GIS data portals and gather the data you will need to complete Labs 7 and 8. This lab was originally developed by James Graham at HSU and modified by Jason R. Patton at CR.

Learning Outcomes

- Find, acquire, and evaluate data (raster and vector) from the world wide web.
- Evaluate appropriate use of data through metadata and visual inspection.
- Acquire data from Humboldt County Web GIS, USDA NRCS, EarthExplorer USGS, and the National Wetlands Inventory.
- Find and read metadata.

Lab

1. Create a **Folder Structure** for your data.
2. Locate the drive named “Data (D:)”.
   a) Create a folder on (D:) with your name.
      I. Right click on white space inside the (D:) folder window.
      II. Click on New → Folder.
   a) Within the folder you just created, create a subfolder named “Lab_07”.
   b) Within the folder named “Lab_07”, create three subfolders as below:
   c) Folder Structure (within Lab_01 folder):
      i. 01_Originals
      ii. 02_Working
      iii. 03_Final

   Humboldt County's Planning Division collects and develops GIS data and software for the initial purpose of supporting the General Plan Update. The goals of the division have expanded to meet the GIS needs of federal, state, and local agencies. This data is readily available for free download through the Humboldt County GIS Data Download webpage. The data comes in both raster and vector formats.

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3. Nagivate to Google in your web browser and search **Humboldt County GIS** and click on **MAPS/GIS,** then the **"data download page."**
4. Take a moment to read through the **Disclaimer** and **Data Projection** sections to become familiar with the data available.
5. Hold down **Ctrl** and **F**. A search window will pop up in the bottom left hand corner when using Mozilla Firefox:
6. Type **Land Ownership** in the search field, under **Parcels**, right-click **Shapefile** and "Save Link As..." into the **Originals** folder. Click on **Metadata** and read about the dataset.
7. Repeat this process for **Zoning** (which contains zoning codes), **Humboldt County GIS Roadway Centerline**, **Cell Tower Locations**, and **Humboldt County** (administrative boundary).

Question 1: What data have you obtained?

7. Complete a QAQC Form on all data obtained and proceeding data.
8. Un-Zip all of the downloaded files and extract them to the **Originals** folder.
9. Take a moment to project all of these datasets into **NAD 1983 UTM Zone 10N**. (use the "search" tool in ArcMap to find out how)
10. Navigate to Google again and search **Humboldt County Code Zoning**.
11. Click on the link shown here (save the pdf to the 01_originals folder) and use the **Ctrl+F** trick to search **Principal Zones**. Skim through the zoning codes to obtain a better understanding of the acronyms in the **Zoning** shapefile attribute table.

Question 2: What zone is your home located in?

USDA NRCS Geospatial Data Gateway (GDG) is a national database which provides environmental and natural resources raster or vector data. This data is free when downloaded directly from the web, but can also be shipped via CD or DVD at a price.

12. Navigate to Google and enter **USDA NRCS GIS** and select the link shown below:

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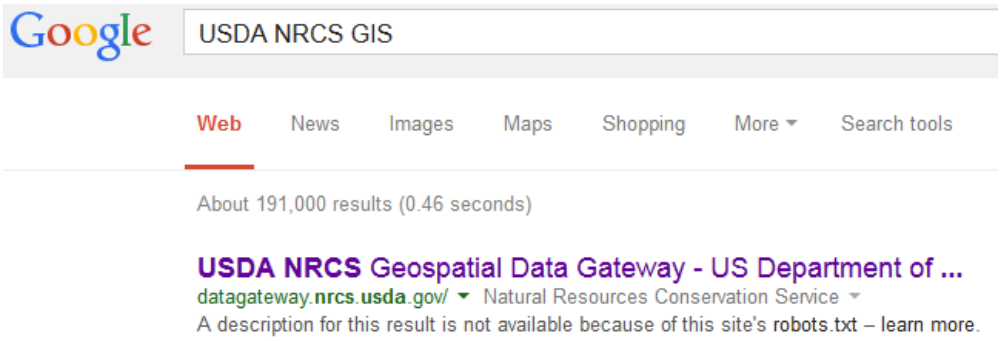
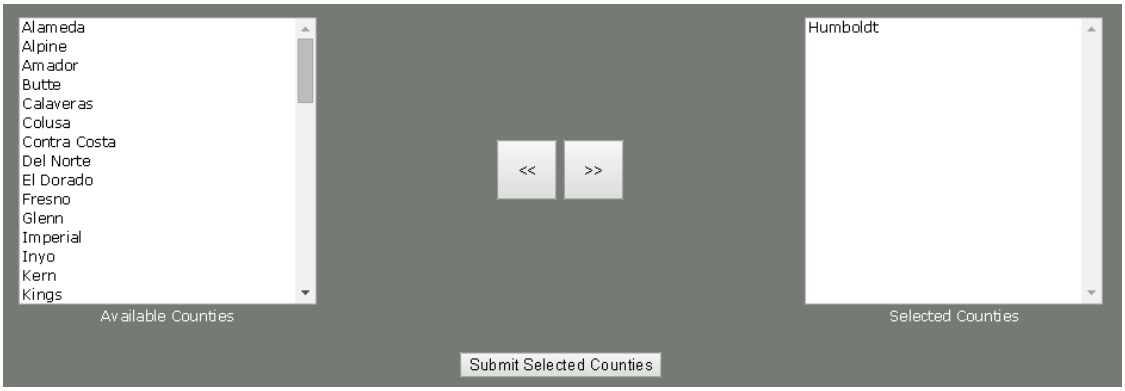
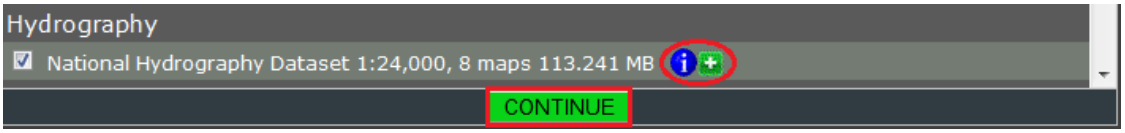


13. Click "GET DATA." Select **Order by Country/Counties** in the lower right hand corner of the website:

14. From the drop down menu select California, then highlight Humboldt and click the right arrow. **Submit Selected Counties**.



15. Scroll through the available options to familiarize yourself with the data available through the Geospatial Data Gateway.
16. Click on the blue identify icon to read a more in depth description of the data:



17. Check the hydrography dataset and click "Continue" when finished.
18. Select the **ESRI Shape** format:

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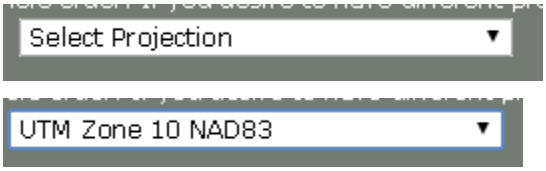
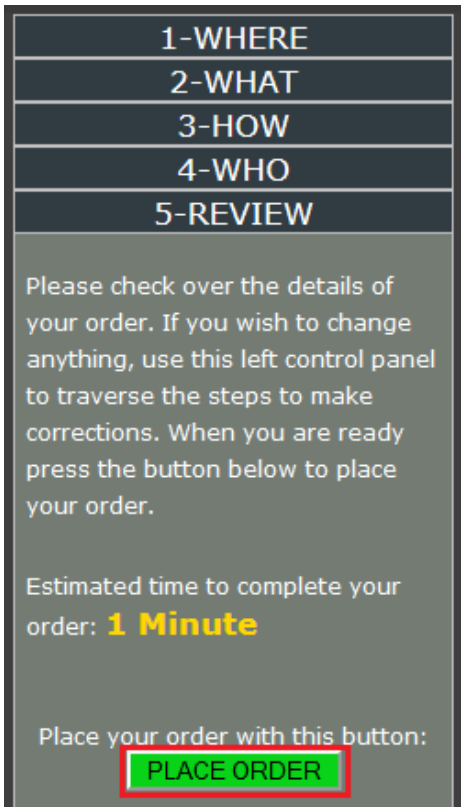
19. Select **UTM Zone 10 NAD83** as the Projection for this shapefile:



20. Select "FTP" as the order delivery method.

    This will ultimately provide a download link to your email address. Data obtained in this format takes longer to obtain and requires processing.

21. Once you have finished filling in your personal information, select **Place Order** in the left hand panel:



U.S. Geological Survey's EarthExplorer is a service that allows you to search and download active and passive remote sensing data, as well as cartographic products obtained through USGS at the national level. This service provides a Google Map interface to select your area of interest and preview the data available for bulk downloading.

22. Navigate to Google and search **EarthExplorer USGS**. Click on the link shown below:

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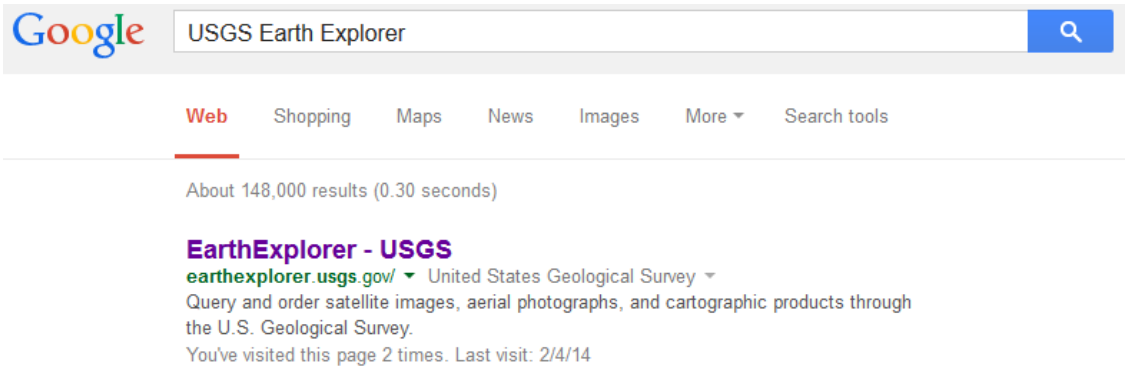
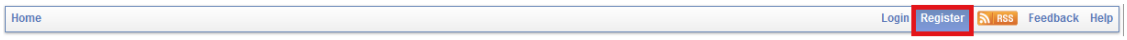
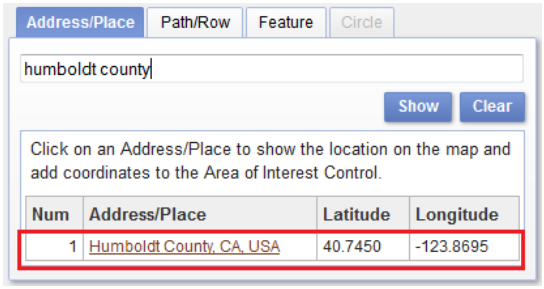


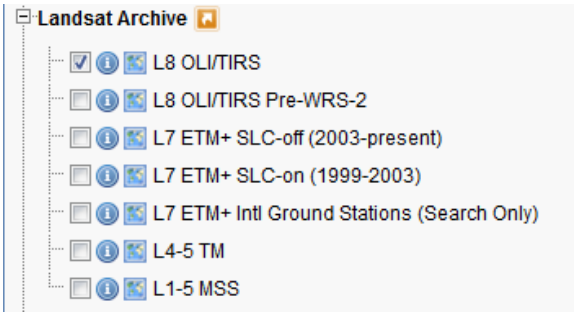
23. Click on **Register** and create a new account. Once complete, login to your email and click on the confirmation link to login to EarthExplorer USGS.



24. Under the **Address/Place** tab, type in **Humboldt County** and select the option that becomes available:



25. Click on "Data Sets." Expand the **Landsat Archive** and select **L8 OLI/TIRS** to obtain the most recent satellite imagery from Landsat 8:



26. Click on the blue identify icon to obtain additional information on the dataset.
27. Leave **Additional Criteria** at default settings and click on **Results**.
28. Navigate through the **Data Set** and select the satellite image that would work best as a basemap for Humboldt County.

    You do not want a basemap that has extensive cloud cover interference!

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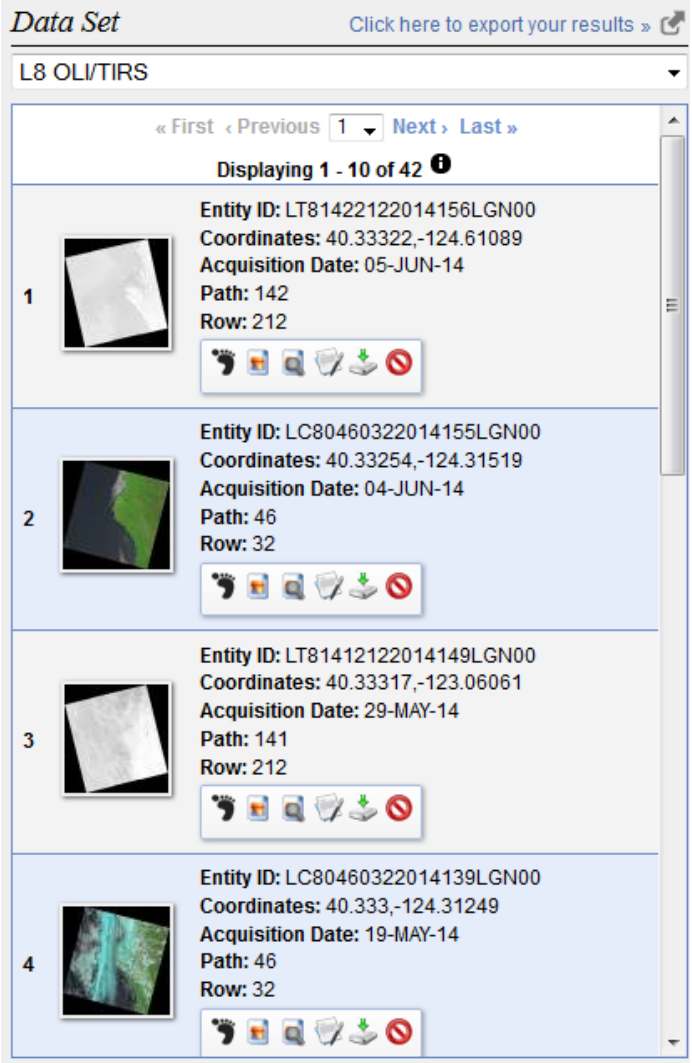
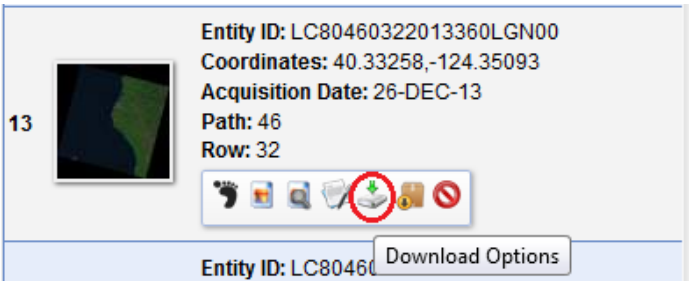


29. Select **Download Options**:



30. From Download Options, select **LandsatLook "Natural Color" Image**:

    The other options are not relevant for the purpose of this lab, but keep them in mind for the future.

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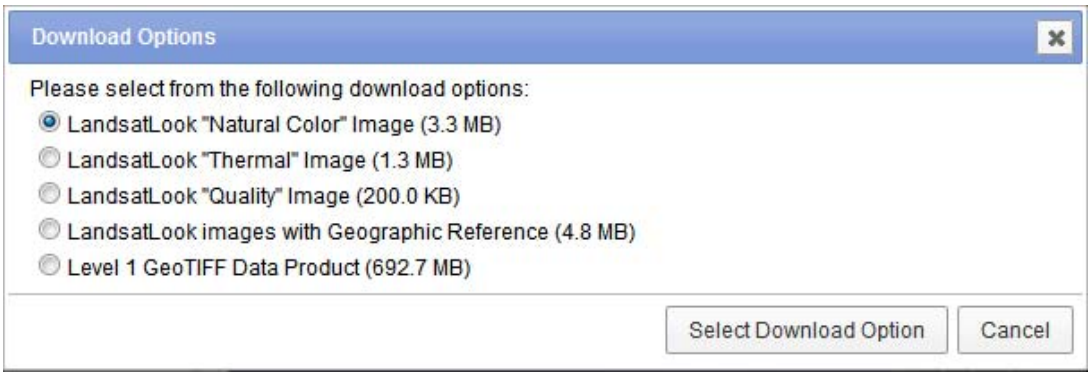
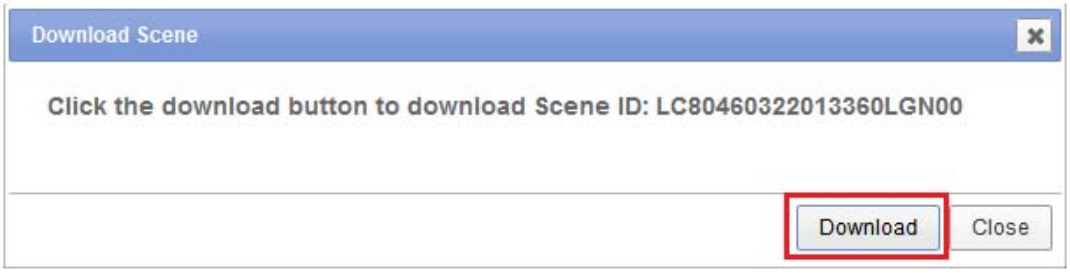
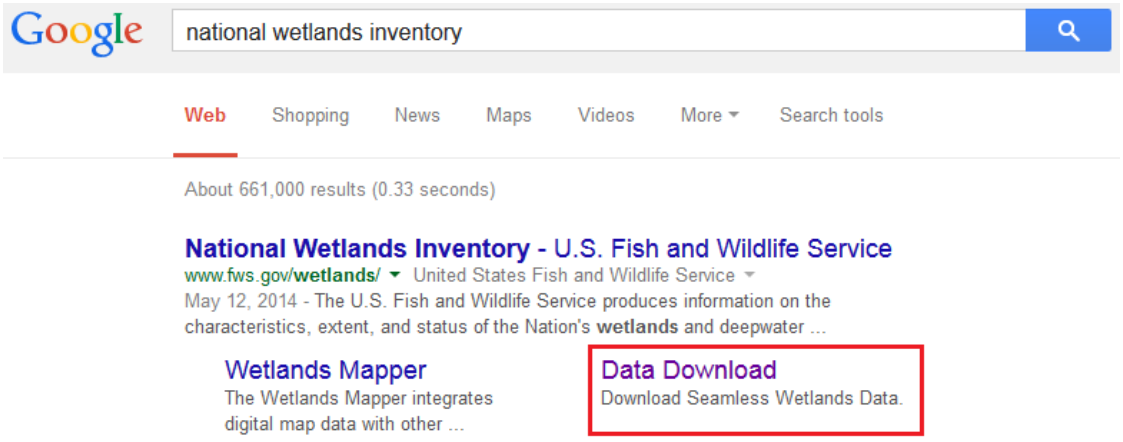


31. Click on **Download**, and be sure to save this to the **Originals** folder:



The U.S. Fish and Wildlife Service National Wetlands Inventory is a comprehensive database that provides vector data on the Nation's wetlands and deepwater habitats.

32. Navigate again to Google and search **National Wetlands Inventory**. Select **Download Data** from the search results:



33. Follow the directions and read the sections labeled: **Disclaimer**, **Data Limitations**, **Exclusions and Precautions**, and the **Wetlands Geodatabase Under Caution**.

    Note that there are two methods for downloading wetlands data - for this lab, we will use the Wetlands Mapper.

34. Select the **Wetlands Mapper** option:

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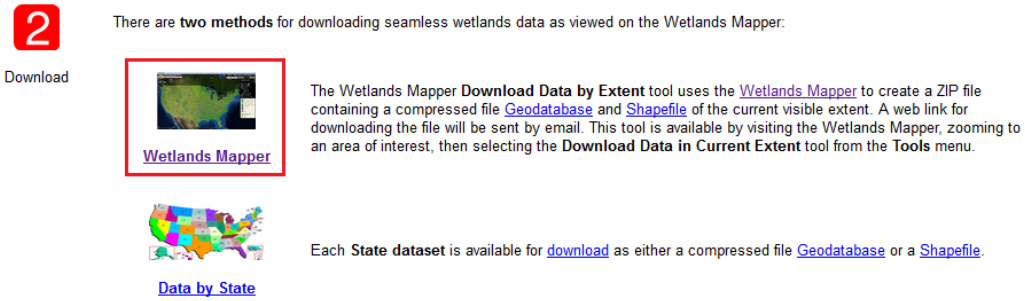
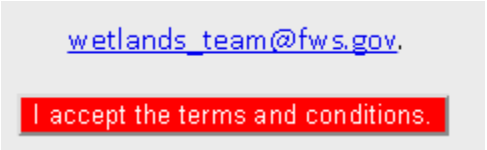


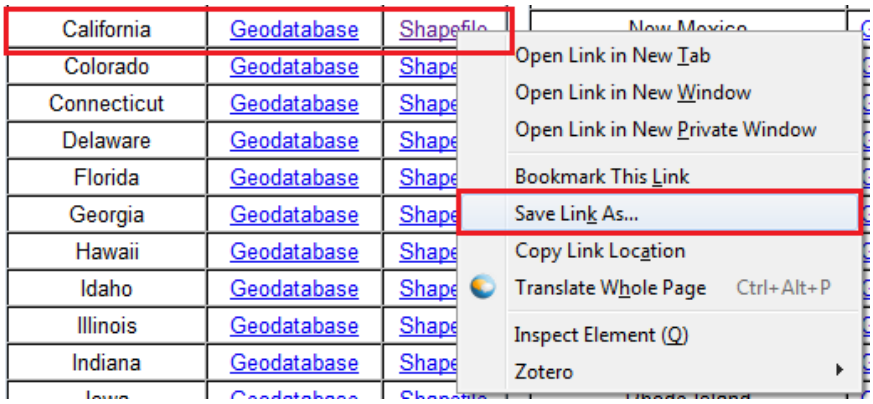
35. Once this option has been selected, go to "Step 3" and **Click here to Open the Wetlands Mapper**:

36. Click "I accept the terms and conditions."



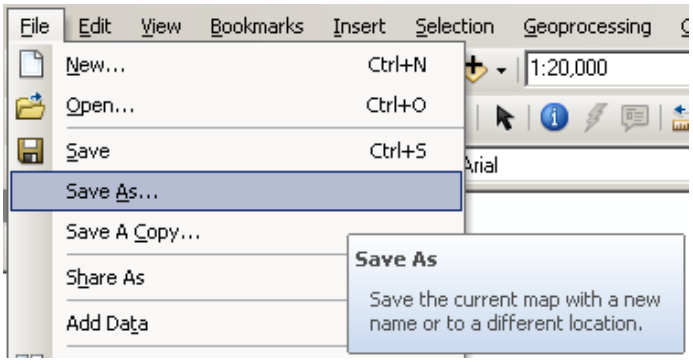
37. Under **Tools**, select **Download Data by State** from the drop-down menu:

Ordinarily, you would right-click and save the shapefile for California in the **Orignals** folder, but since this file is fairly large, it will be available in SA Course Files (X:).



37. Using ArcCatalog, copy and paste the wetlands shapefile into the **Originals** folder. It has already been projected into **UTM NAD 1983 Zone 10N**.

38. From File within ArcMap, select "Save As..." and save your work into your primary folder! You will be re-opening this for Lab 6 and 7.



Summary of Data Download Links

- Humboldt County Planning and Building Department Data Download webpage.
- United States Department of Agriculture Natural Resource Conservation Service Geospatial Data Gateway.
- United States Geological Survey EarthExplorer.
- U.S. Fish and Wildlife Service National Wetlands Inventory Data Download.

In Lab Turn-In

At the end of the lab, please turn in a QAQC Form for all data acquired.

Take Home Turn-In

Export a TIFF of the datasets with a report that includes a table on the name of the dataset, where it was obtained, and any issues with the data. Fill out the report and email the report to the instructor.