Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lab 7: Qualitative methods**

Qualitative methods are those methods which do not rely on statistics or numbers. They tend to produce more descriptive outcomes. Qualitative methods are used in most social sciences, but can also be used in physical sciences such as in physical geography. Some of the methods include interviews, surveys, participatory mapping, and historical reconstruction of landscapes using photographs, art and diaries, just to name a few. Often, qualitative and quantitative methods are used together to strengthen research. Since geography often involves both human/social and environmental/physical aspects, using both methods can be very useful.

This lab will have two parts:

1. Participatory mapping
2. Historical landscape reconstruction

The first part, participatory mapping, will be done in class. The second part will be done outside of class.

**Participatory mapping**

*(Group and individual)*

Participatory mapping is the creation of maps by local people. It is a tool often used by development agencies working in developing countries to learn where the priorities lie for the local communities, as well as to learn about land use, land categorization, land tenure, and other common social and physical understandings of the area. Often, once the map is produced, the data is input in GIS for further analysis.

You and your group are going to create a map of Tucson using participatory mapping techniques. Imagine a development organization came to town and was interested in how University of Arizona students viewed the city of Tucson. They particularly want to know where students spend most of their time, what transportation routes they take to get to wherever they spend their time, and what places are considered most important to students. This information will help them to capitalize on additional services and/or facilities that will get the greatest amount of utilization among UA students.

Instructions

You will work in pairs to populate the class’ Participatory Map in Google Maps Engine Lite. One of you will act as an **interviewer** and one as a **participant**. The interviewer will sit at the computer to locate and fill out necessary data for the map. The participant will help by looking on and identifying places that accurately reflect what the interviewer is asking about.

1. Go to <https://mapsengine.google.com/map/edit?mid=z3YqASQEw0JI.kwncg5rlv5g8>
2. For each of the items below, add one point to the map, and fill out the data fields provided in the map. Use the layer “**Important Places**”
   * + To do this, click the area on the left labeled "**Important Places**" to highlight the specific map layer
     + Enter the place you want to add to the layer in the search bar at the top. This should drop a marker in that place.
       - If that doesn't find the place you want, you can navigate there with your mouse as you would in Google Maps. Click the button next to the hand icon to "Add Marker"
     + Once the marker is where you want it, click it to bring up a little pop-up window. Click the hyperlink at the bottom to "Add to Map".
     + Click the marker again and in the new pop-up window, click the pencil icon to edit its properties.
     + Put your **participant’s name** in the first “name” field
     + Identify the feature you are adding in the “description” field
   * For each participant, ask for these FIVE features, and add each as a point on the map.
     + Where do you live, or call “home” while at the University of Arizona?
     + Where do you spend the most time while working?
       - Could be school work or a job
     + Where do you primarily purchase your food (i.e., a grocery, cafeteria)?
     + Where do you most often eat out (e.g., a restaurant)?
     + What additional place would you add that is important to you and you go to often?
       - Could be a recreational spot, where your childcare provider is, a club activity that you do often.
3. NEXT, you will draw lines to show how your participant commutes from his/her home to either where they identified as working the most or where they take classes.
   * As above, click on the layer named “**Commutes**”
   * Then click the lines tool  under the search bar.
   * Start from the participant’s home and draw a line along their travel route to where it ends
   * Then click on the item for the line you just drew from the list on the left side of the page
   * As above, edit the fields by clicking the pencil icon.
     + Add what the commute is in the “description” field and how the person travels in the “Commute Type” field.
       - Commute types should be limited to Car, Bus, Walk, Bike, Skateboard, etc.
4. Switch with your partner and repeat the steps above.

After you have completed this exercise, we will come back together as a class to look at and analyze our map. You will be asked to come up with questions that might be assessed by the developers looking at Tucson, and how UA students utilize the space. Write out these questions we decided to answer here:

1.

2.

3.

4.

After the class, you will write out **your own** answers to these questions from the perspective of a potential developer. Your write-up should be 400-500 words and directly answer the questions. You might want to go back to the map to symbolize it as you like, and then use screen capture to include it in your write up so that we can see what you see as you discuss it.

**Historical Landscape Reconstruction**

*Using repeat photography*

*(Individual assignment)*

Historical landscape reconstruction is a technique which aims at determining what the past landscape looked like, what species were present, and why and how the landscape has changed. Often, qualitative and quantitative methods are used. Quantitative methods used often include remote sensing with ground truthing. Repeat photography, another common tool, can be used as either quantitatively (mathematically calculating ground cover change) or qualitatively (descriptive). These methods are important as often environmental policies are made from beliefs of what the landscape should be (and hence what it *used* to be).

For this lab you need to visit this website:

<http://ag.arizona.edu/SRER/photos.html>

This website is from the Santa Rita Experimental Range south of Tucson. On the map find each of these locations:

* 255
* 029
* 299
* 134

Photos at each of these spots have been taken over the past 100 years (although most started in the 1940s). You can often see the mountains in the background confirm they are in the same spot. *Consider that some of these sites have photos taken from several different directions.* You need to examine each of these sets of photos and for each location. Then address the following questions, with 200-300 words per location:

1. What has changed in the land cover?
2. When did the greatest change take place?
3. If you were to hypothesize, what could be responsible for the change?

Do NOT just copy the descriptions given next to each photo, although you can read them for more information. This must be in your own words. Each person will turn in their own assignment- this is not a group assignment.