

## Geology and Your Backyard

How does geology affect development, recreation, and agriculture in your community? In this exercise, you'll find out! To explore the USGS's interactive soil survey maps, go to the following site: <https://www.nrcs.usda.gov/wps/portal/nrcs/site/soils/home/>

1. Type in your state and county under the 'Quick Navigation' box. Click 'View.'
  - a. Choose an 'Area of Interest' (AOI). (It has to be less than 10,000km<sup>2</sup>.)
  - b. If you first want to move the map to see better, you should choose the white hand box/button, move the map as desired, and then choose an AOI.
  - c. It may also be easier to choose the magnifying glass with the + sign and click on your town/area to zoom in first.
  - d. Click an 'AOI' box/button above the map on the left. The 'AOI'-rectangle lets you draw a rectangle; the 'AOI'-polygon lets you draw a many-sided polygon—double click to 'close' the polygon.
  
2. After choosing an AOI, switch tabs to "Soil Map." This shows the soil layers in the AOI.
3. Find the soil types that your house and school are built. Click on the name of each of those soil types in the left-hand scrolling menu to learn more about them. Use this information to fill in the table below. Some soil components won't have all values.

Location	Soil Composition	% of each	Slope	Drainage class	Frequency of flooding	Available water capacity	Farmland classification
Home		%	%				
		%	%				
		%	%				
School		%	%				
		%	%				
		%	%				

4. Switch tabs to the "Soil Data Explorer."
5. Explore! This tool was created to help communities best plan how to use their land. For example, some areas are particularly bad places to build on—steep slopes cause soil erosion, and poorly-drained soils in low-lying areas will flood. Other areas may have particularly good soil for farmland. Clicking on the list of items at left will open up drop down menus of qualities that have been rated according to the geology of the area.
  - a. Click "Building Site Development" at left.
  - b. Click "Dwellings with Basements" and "View Description" in the box that opens. After learning a bit about what the data means, click "View Rating."
  - c. When the map re-loads, click the "Legend" box on the map's upper-left to learn what the colors mean.
  - d. Answer the following questions:

What is the suitability rating for the area in which your **home** lies? \_\_\_\_\_ What is the suitability rating for the area in which your **school** lies? \_\_\_\_\_

Based on the lab activity and what you learned about soils in your area, does this “dwellings with basements” suitability rating make sense? Why or why not?

6. Explore several other land use options and their suitability in your area. Explore at least one value relevant for food production, one for recreation, and one more for some type of development. Describe the most interesting things you learned below and explain why you found them interesting.