

Surveying the Situation - Soil

~ by Suzy Wert, Indianapolis, IN

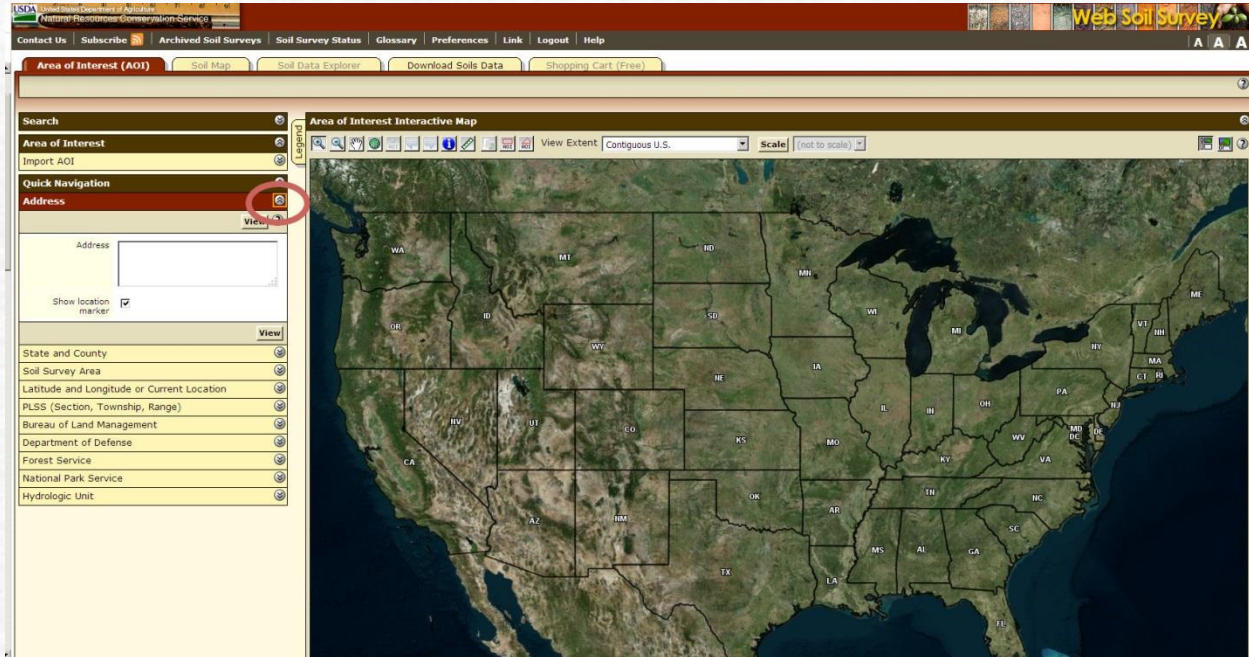
The USDA has been surveying the soil in this country for over 100 years, and now it's all online and ready for us to use in a way it's never been before.

Here are the directions on how to use their website for your private property. What you find will amaze and delight you....assuming you are a soil geek like me.

The simple yet powerful way
to access and use soil data.



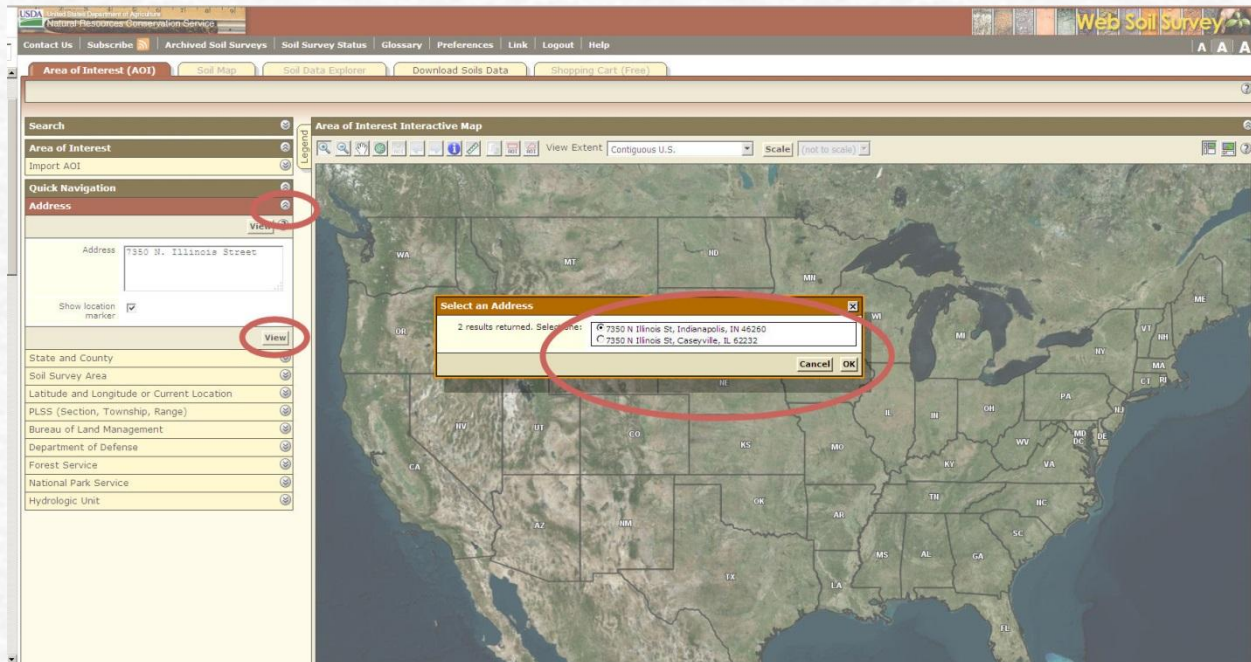
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>



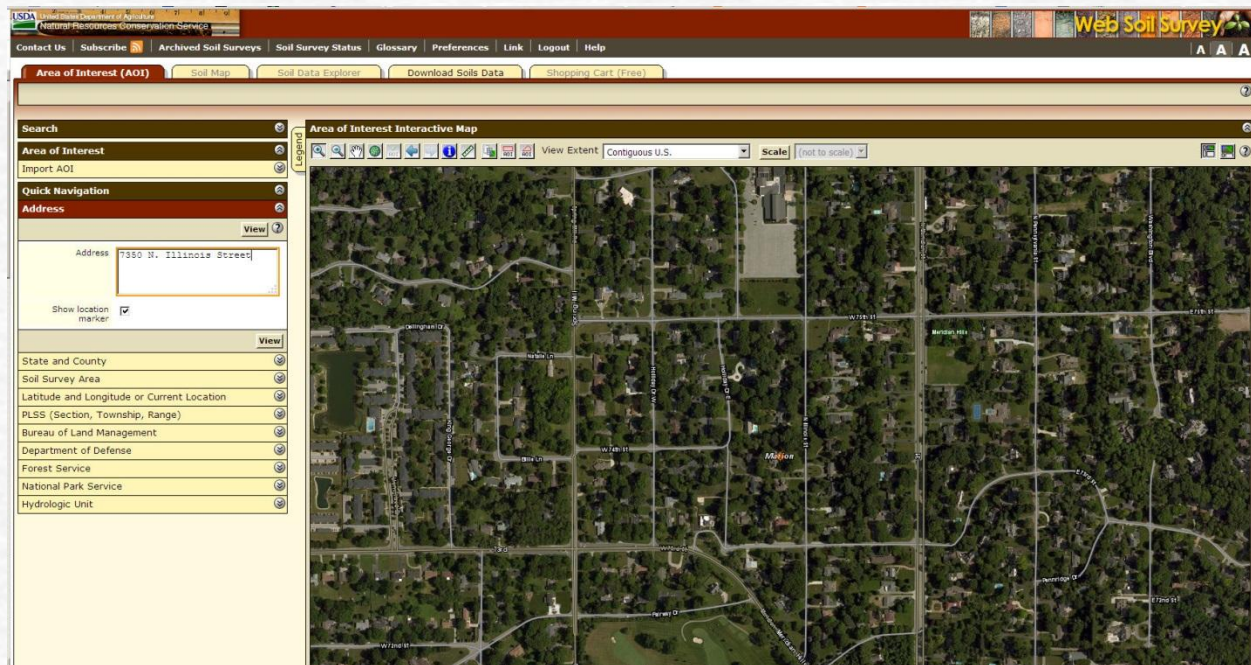
Be sure you are on a laptop or desktop. You can only go so far on an iPad or Phone.
On the left side, look for Quick Navigation

Quick Navigation → Address

Click the arrow (circled above) and a box will open up. Type your address in the block, all on one line, and press view.

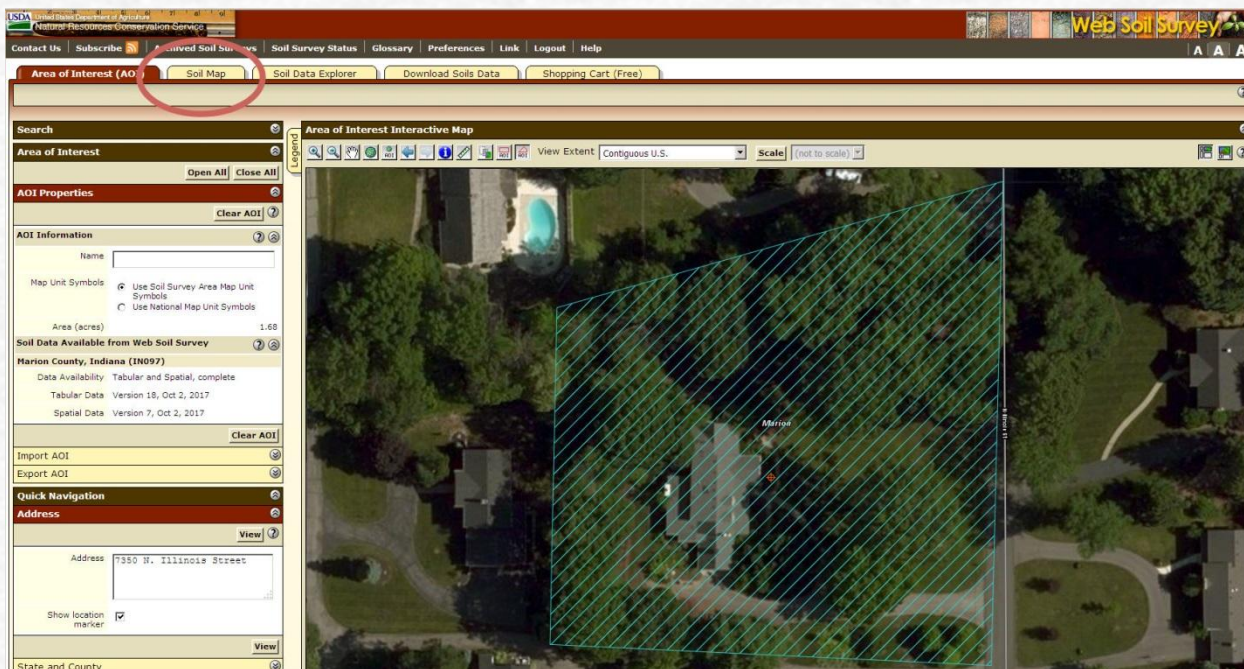
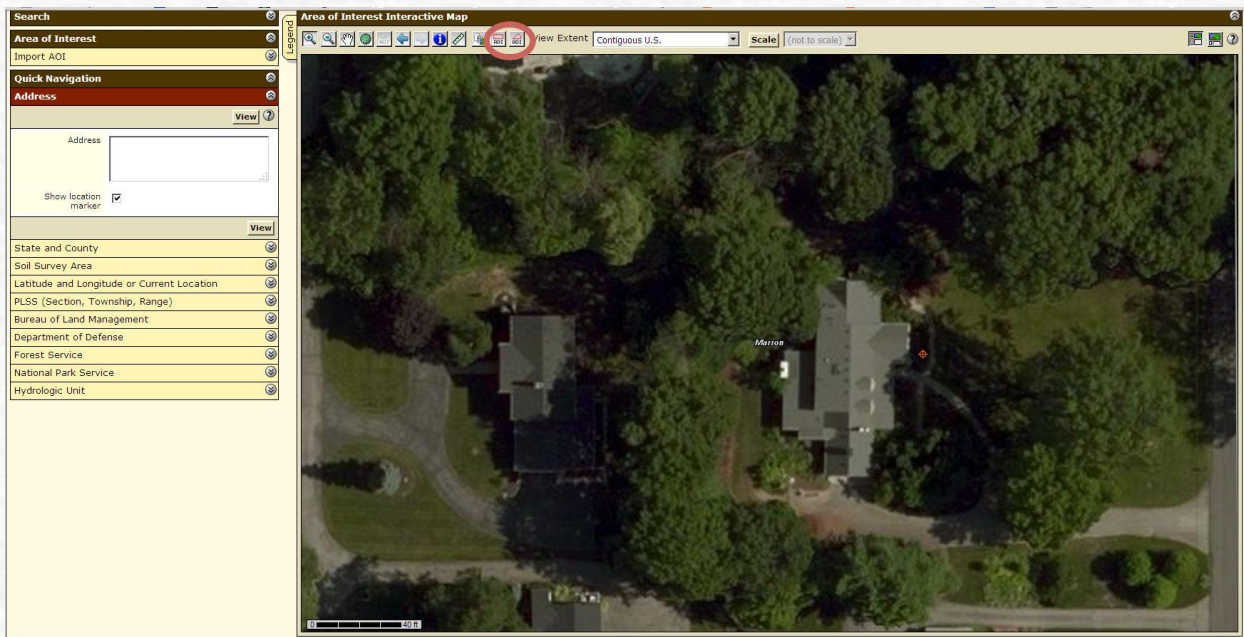


If there is any confusion on the address, it will give you some choices as above. Choose one and then click “view”, as circled above.

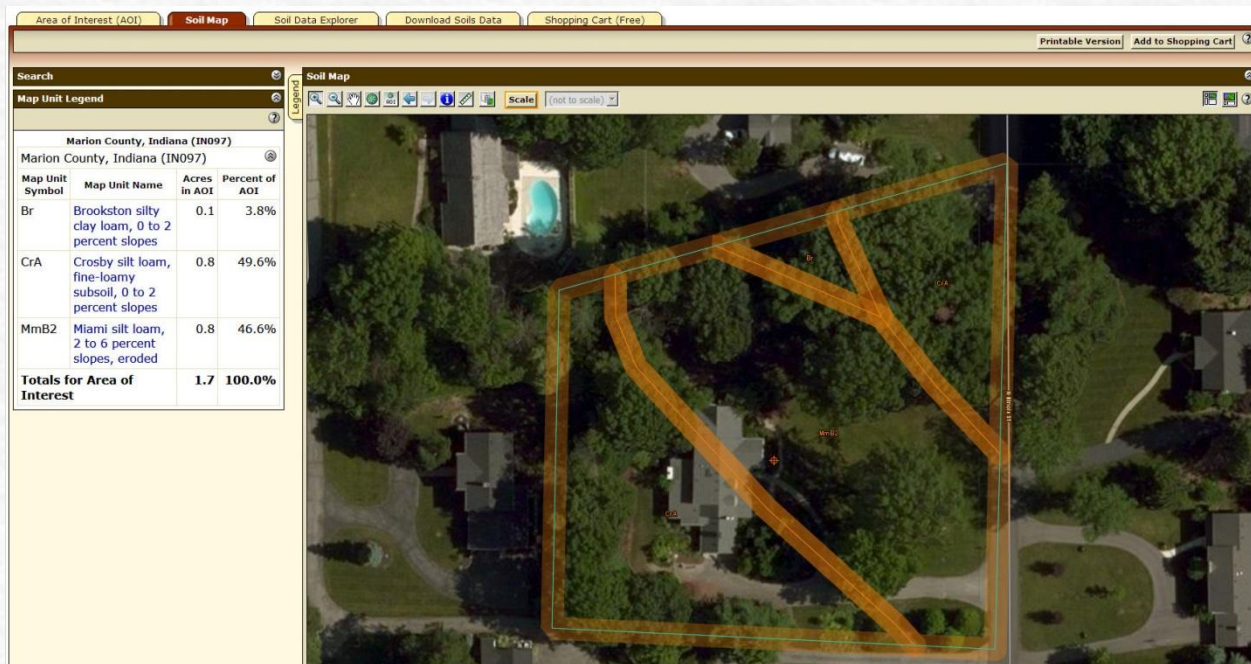


A map will come up, and it should be recognizable to you as it is your neighborhood, but it will probably be a lot larger than you need or want. Use your mouse to get a rectangle of a more concise area, but one which will include your entire property.

The following photo shows my house and also the house behind me. I will use the polygon AOI tool, circled below, to choose my Area of Interest because my lot is not rectangular. If your lot is rectangular, use the rectangle AOI tool on the left.



Above: As soon as you have your property outlined, go back up to the tabs, circled, and click on your Soil Map.



Each of the areas bordered in orange has a map symbol designation which is keyed on the left. There are plenty of tabs to play with, but a plain old Google search was more educational for me. I had never heard of Brookston silty clay loam, Miami silt loam, or Crosby silt loam and so reading about all of these was sort of fun. I will say that the Brookston area of my property has some of my best daffodils growing in it. Maybe as a result of the more fertile clay there?

I have tried this with a lot of members' addresses and it works, although the screen shots for the more rural properties are way different from the cities, and the different counties may be organized a little differently. Below is Sue Luken's rural property in Scott County. The whole map will make perfect sense to her, and she should be able to locate all her daffodil beds just from this map, though narrowing it in to her immediate area will be more beneficial.



The original Indiana Ledger article from March 2018 is below

Daffodil Roots Need Air!

~by Suzy Wert, Indianapolis, IN

Most residents of Indiana swear they have the worst clay in the country! If “harder than hammered hell” describes your soil in the summer, read on.

Don't suffocate your daffodils! Arrange for your soil to have more small air pockets which will allow it to perk better by adding both mineral and vegetable matter. Minerals include perlite, sharp sand and even pea gravel. Vegetable matter includes compost, leafmold, and composted bark.

Why are both vegetable and mineral additives needed? It's because our native soil is primarily silt-sand-clay in nature but all the elements are of a similar and very small diameter which in turn simply compress over time, leaving a smaller matrix of air between each grain. Because of the density, air is at a premium.

One often hears about a new daffodil bed, deeply dug and tall and fluffy from organic matter which somehow deflates by the following summer, leaving the bed lower than the surrounding soil. Raw organic matter which has not been thoroughly composted can make soil too wet leading to a decent enough perk, but with poor drainage. Organic matter has two key factors we are interested in, fertility and worm activity. Clay is very fertile, but sand, silt and loam are not as fertile. Looking up your soil in the USDA database will help you determine your soil type, from which you can infer general fertility. The worms, though, are the key to perfect air pockets because of the super highways they create in the soil. If you have no organic matter in your soil, I'm guessing you don't have many worms. Organic matter makes for happy worms and happy worms make for happy soil!

Minerals are equally useful to us as organic matter, but in opposing ways. There is absolutely no fertility to sand or perlite, but the minerals don't decompose or “go away” and leave the bed lower than the surrounding soil. We need them to keep that bed taller than the surrounding soil so the water drains off. Minerals don't leave a bed sopping wet as raw organics can, and in fact, keep the soil looser than it would be by adding bulkier

texture. Clay will shrink away from added minerals in the hot summer when it gets dry and that creates air when the worms have gone down deep for their summer vacations. Worms don't love minerals as they do organic material, but they won't leave the bed because of increased amounts of minerals.

In the old days, we'd read an article advising us to shake up a bunch of soil with water and determine the layers. With a ruler, we'd match up the percentages with a ruler on the triangle.

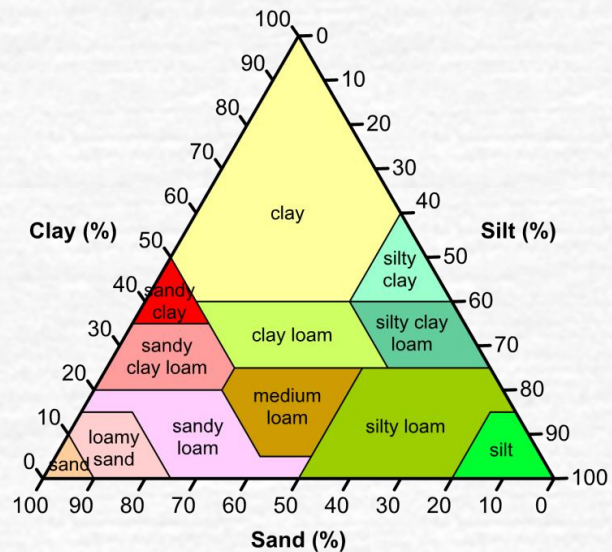
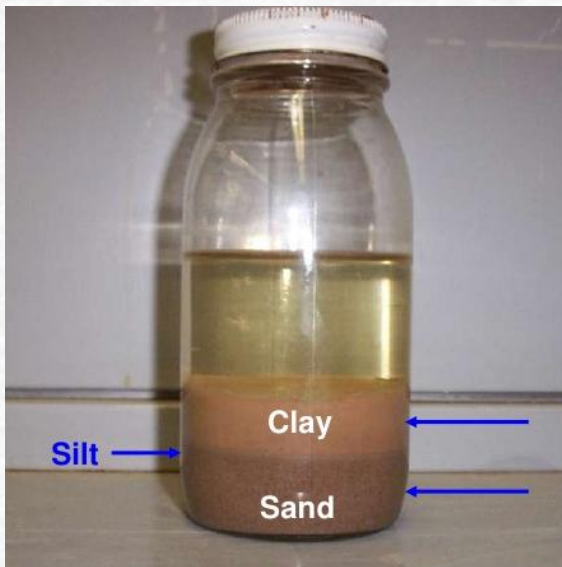


Figure 1 Remember this? A perfectly layered jar of soil... but figuring out the silt % is impossible. (MGSlideShare)

Figure 2 Daffodils prefer a clay-loam soil in bright lime green above. (Wiki)

This was always a total waste of time for me because my silt layer was indistinguishable from my clay layer, and fortunately, The US Dept of Agriculture, Soil Conservation has mapped every Indiana county, thus saving me the aggravation. The survey includes the official name of one's soil, the incline, and often what is down 6" -60" below the surface, and a quick Google search on the name of your soil will yield even more information. Each county has a very intricate and detailed map, and each member reading this should be able to zoom in and isolate their exact property out of their county map. My lot in Indianapolis is surveyed to include the backyard which is a different soil than my front woods, which is in turn different from the low lying swale which goes across the front yard. It's amazing that the survey even includes my high water table in the backyard!

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to access and use soil data.



To find out more about your soil, click above and put in your home address listed under **quick navigation**. This does not work on an iPad or iPhone.

<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

The question involves the percentage of silt in your garden soil. Silt is the product of erosion and in most of Indiana, it is wind blown soil – in other words, fine particled dust. Silt is the garden equivalent to white flour with no germ because over time it has lost most of the beneficial minerals through leaching. (Clay is the equivalent of whole wheat flour, and like that loaf of bread, it will produce a dense brick if the baker only uses whole wheat flour.) If your native soil has a high amount of silt, daffodil roots will not only have a hard time getting through it, but it will probably not have the necessary fertility.

If it turns out that you have a silty garden soil on your property, a soil test is for you. For the most accurate results, use the services of a commercial soil testing lab rather than a soil testing kit. Purdue does not do soil testing for homeowners, but [A&L Great Lakes Laboratories in Ft. Wayne](https://algreatlakes.com/) does. It's \$9.35 for the following which does not include nitrogen: Organic Matter, Available Phosphorus, Exchangeable Potassium, Magnesium, Calcium, Soil pH, Buffer pH, Cation Exchange Capacity, Percent Base Saturation of Cation Elements. <https://algreatlakes.com/>