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*Gaining ground for farmers*

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## **GranitViewII: A Resource for Farm and Land Use Mapping**

As Land For Good's New Hampshire Field Agent, I work with both farmers looking for land and non-farming property owners who are looking to make their land available for agriculture. One of the first things that farmers often ask about are the types of soils on the properties that are under discussion.

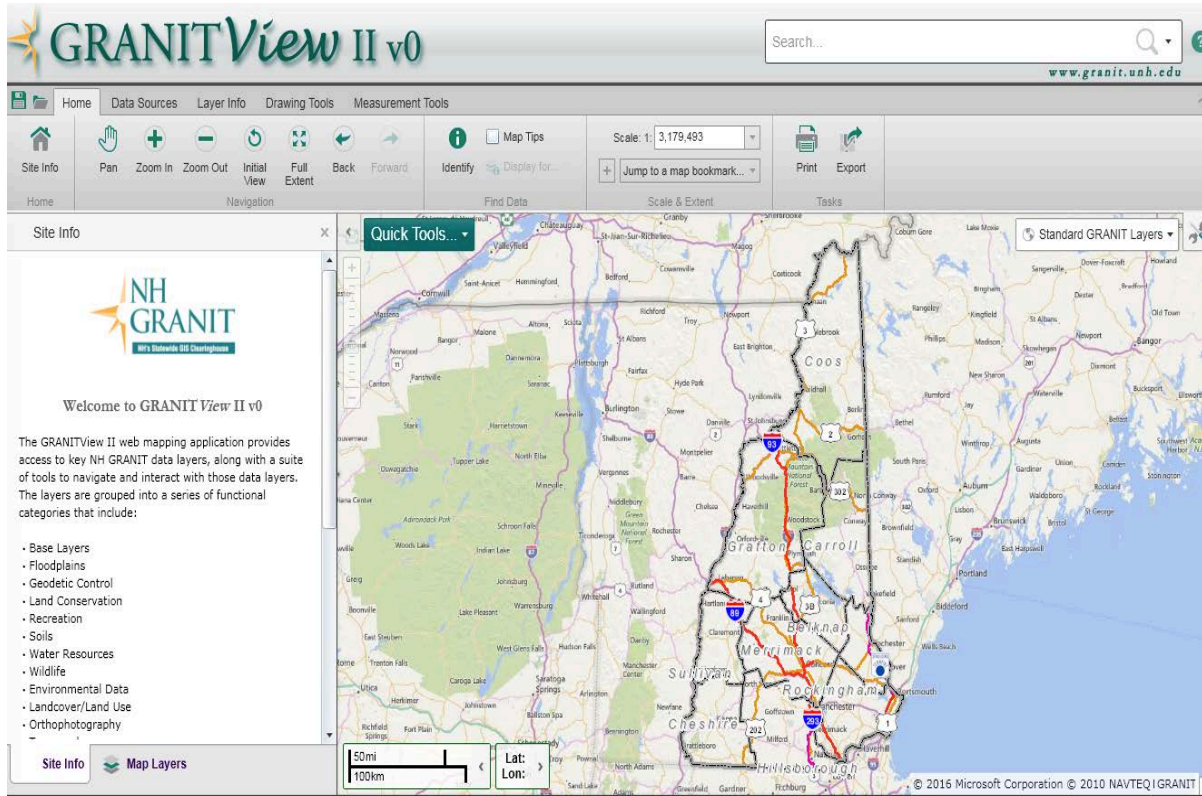
In many cases, the first response I get from non-farming landowners is, "we have sent the soils out to be tested." But soil tests answer a different question than what types of soils are present in a given landscape. While soil tests identify such criteria as soil fertility, pH, nutrient levels, and soil organic matter, they do not identify soil types, or "soil series," as categorized by the USDA. Soil types, such as "Hadley Silt Loam," "Vergennes Clay," "Becket Fine Sandy Loam," and "Pittstown Loam," are based on characteristics influenced by the formation of soil over geologic time. The characteristics of a given soil type will influence aspects such as tillage, drainage, native fertility, and yield potential.

To determine what soils are on the property, we start by looking at soil maps. One online tool for this purpose is the USDA Web Soil Survey ([websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov)). While this tool is very useful, and the website has a great deal of information on soils, it tends to be slow and clunky, and it offers limited information relative to other GIS applications.

Fortunately, an alternative, easier to use, and more comprehensive tool, **GranitViewII**, is available in New Hampshire. GranitViewII is simply a user-friendly interface for all of the state's Geographic Information System (GIS) data. With it, landowners and farm seekers can map soils as well as other useful and important features such as property boundaries, acreage, wetlands, elevation, flooding hazards, and much more.

To open GranitView, go to: <https://granitview.unh.edu>

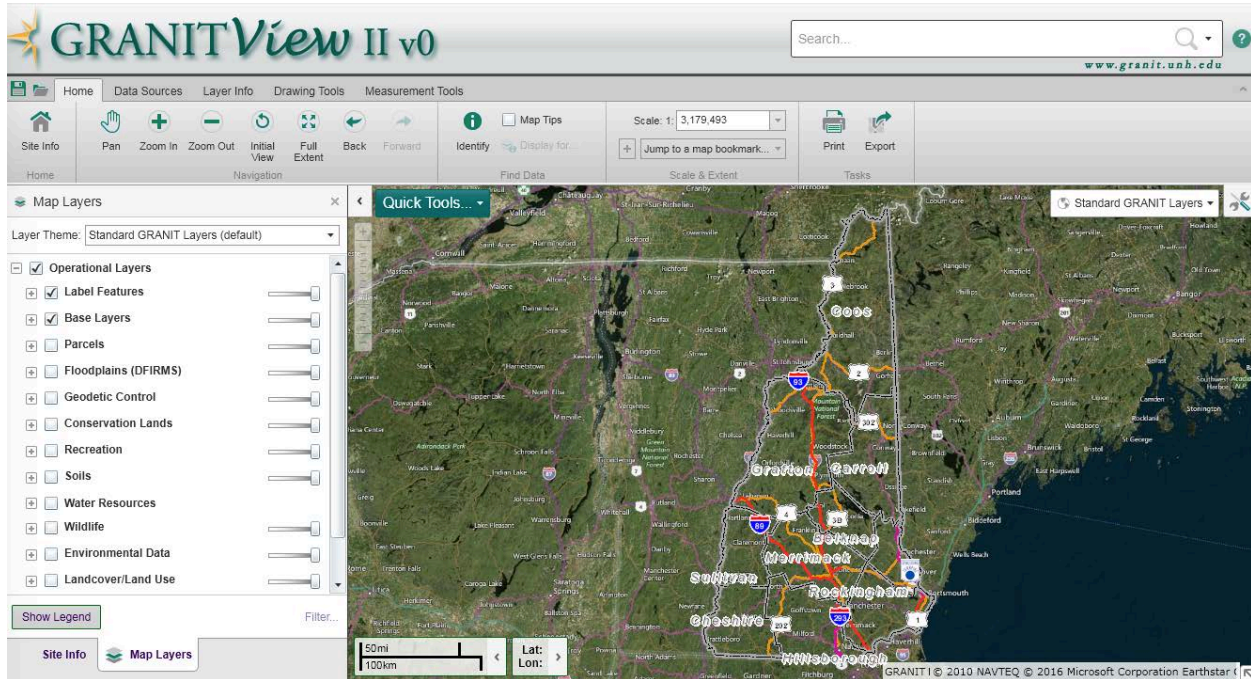
The screen cap below is the home page.



When you first access the site, take the following steps:

- click on the “Standard GRANIT layers” box
- uncheck the “Bing Roads” box
- check the box to change the map to “Bing Hybrid.”
- click on the tab on the bottom right side labeled “Map Layers”.

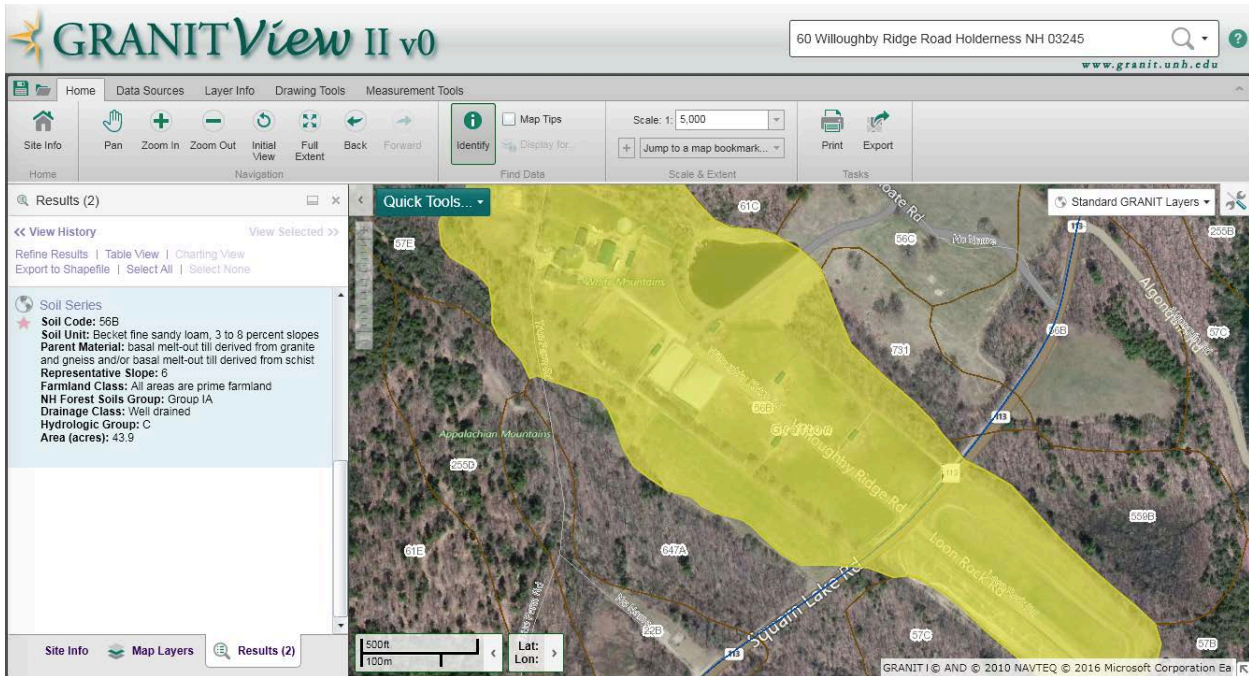
Your map should then look like this:



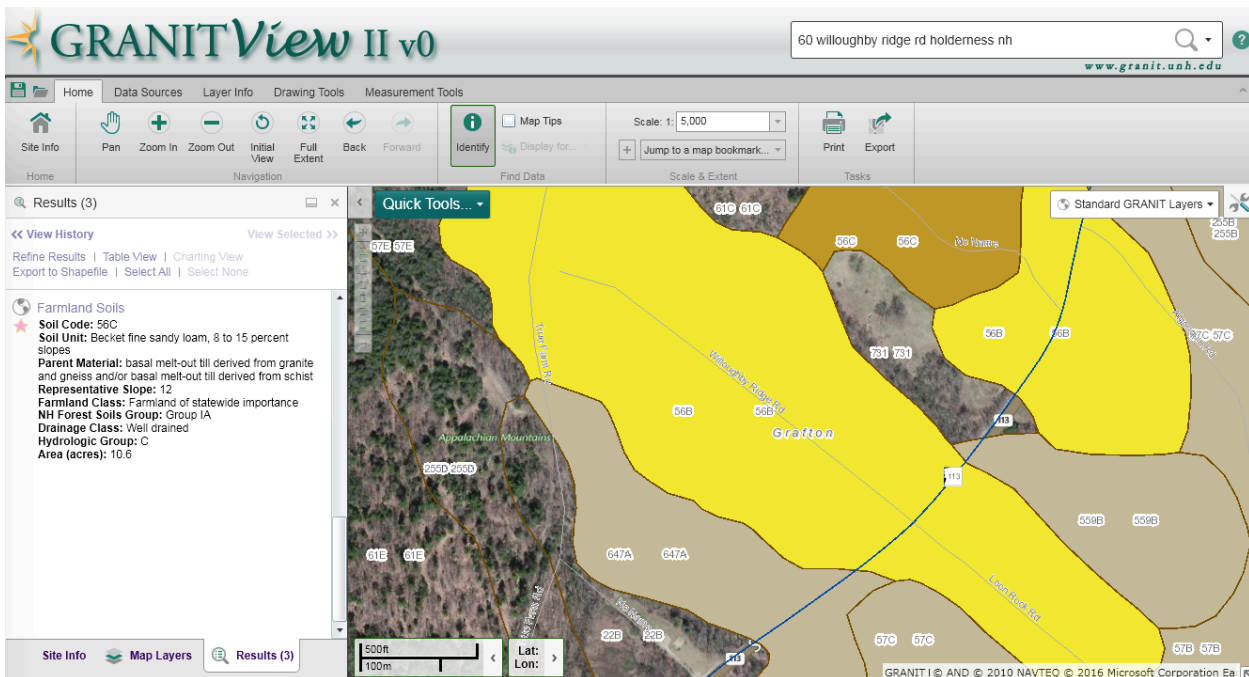
In the top right hand corner is the search box. Enter the property address you want to research into it. After an address is entered, two boxes will appear. The one on left lists the search results - pick the property that is a 100% match. In the box on the right, click on the “zoom to feature” link. This will zoom the map to the property you searched for.

Making a number of separate maps with different layers, or features, is usually more useful than trying to show too many things on one map, so as you are working, consider which layers you’ll want to show together. For instance, you may map soils separate from flood hazards, and make a separate map that calculates field acreage and outlines property boundaries.

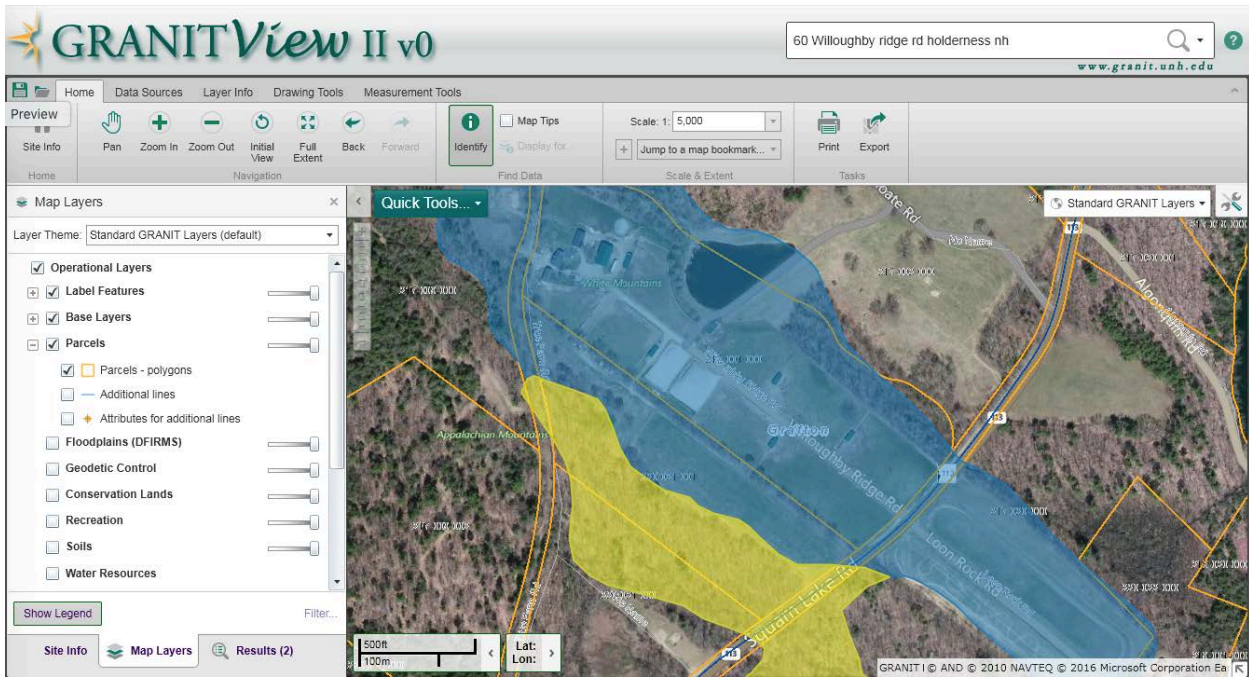
To make a soil map, click on the “soils” box in the “map layers” tab. This will overlay a series of numbers with letters, which refer to specific soil types. Clicking the “Identify” button on the tool bar will then allow you to click on a specific number/letter combo in an area of interest. A box on the left will appear that explains the soil type, slope, drainage, farmland class, and other important characteristics of the identified soil type in the area highlighted on the map. You can then save these fact sheets to your computer. When you click on the “soil series,” you’ll call up another box with facts about the soil and have the option to “copy to drawing;” this will highlight the specific area of the given soil type on the map.



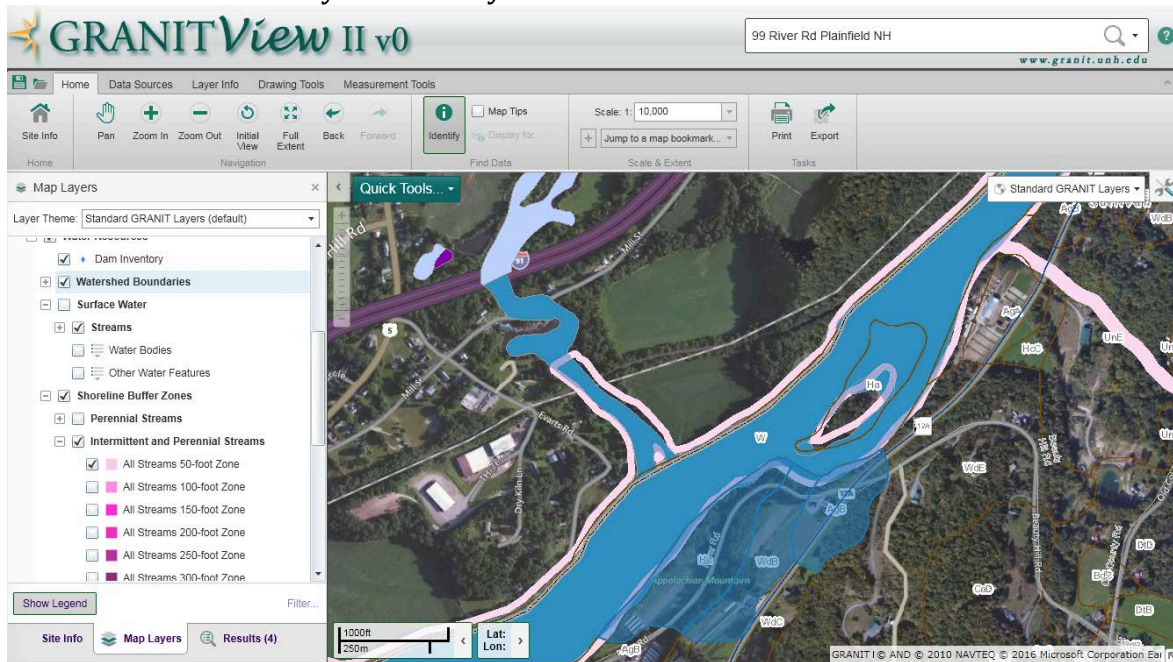
If you click the “+” box next to “soils” a menu of further options related to soils will open. If you click the “farmland” box, it will highlight all areas that are suitable for agricultural use.



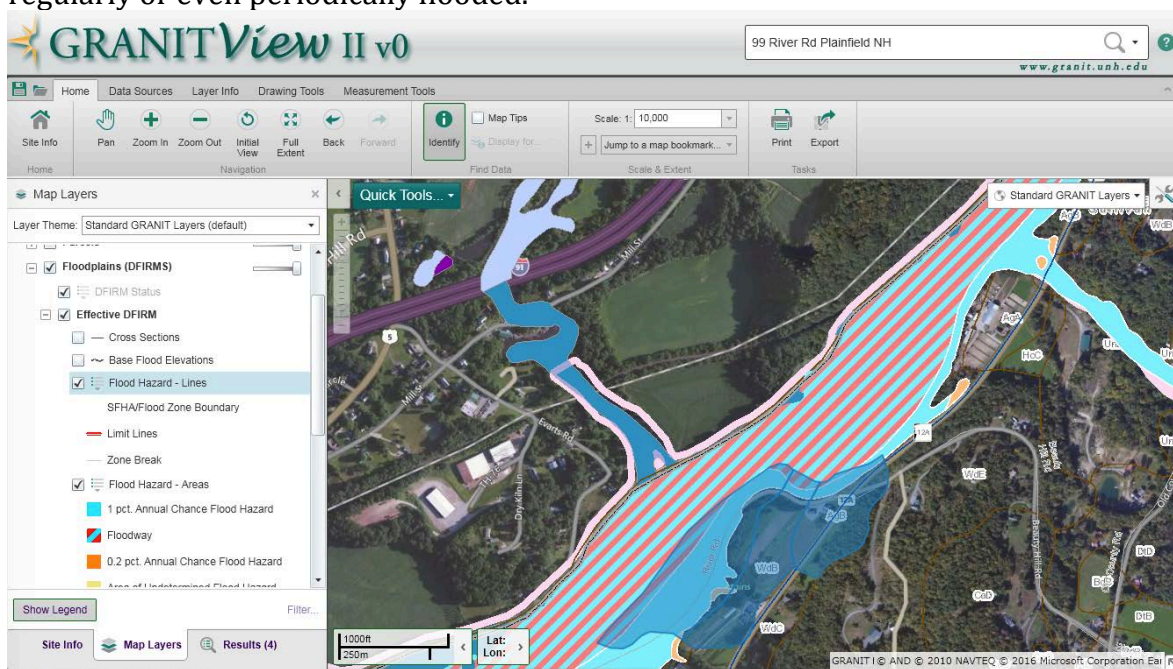
In the “Map Layers” box, another useful option is to look at “Parcels” to see the property boundaries. Press on the “+” sign, then click on the “Parcels – polygons” box.



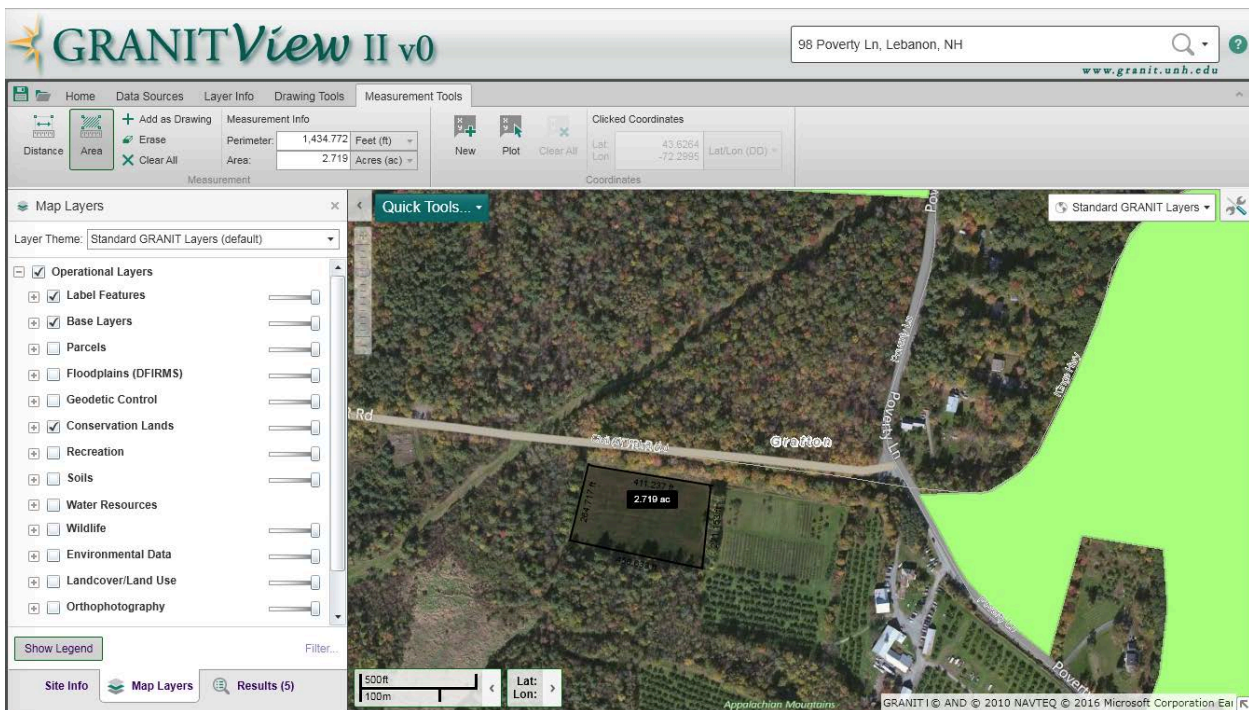
Clicking the “+” sign next to “Water Resources” provides many options for assessing how the presence or absence of water – permanent, seasonal, or occasional – might affect the property you’re looking at. In the photo below, the darker blue highlights the river, the lighter blue represents a pond, and the little bit of purple represents some wetlands. Make sure the “Identify” button on the tool bar is highlighted and you can click on any of the colors on the map and a description of that particular highlighted color will appear in a box. For example, clicking on the darker blue will identify the river by name.



It is also very useful to identify the floodplains. Obviously, it is important to know if farmland is regularly or even periodically flooded.



To calculate field acreage, click on the tab “measurement tools” on the toolbar. Under “measurement info”, you’ll want to change the “area” to “acres.” Then click on the big “Area” button and pick your first point within the area you want to measure. Click, release, and move your mouse to the next corner, or bend in the field, and click again. You’ll be plotting a polygon whose area can then be calculated. Be careful to look for shadows from hedgerows in the picture as they often obscure the true field edge and can lead to underestimates of actual field size. Once you finish drawing the outline, double click and you’ll see the total acreage. You’ll see in the photo below a large area highlighted in green. This is land under a conservation easement. If you click the “Identify” button and click on the area highlighted in green, a box will appear with information about the conserved land.



Spend some time exploring this highly useful resource, and you will likely find other property features of interest to map. Having information on soils, flooding, water resources, and acreage will help you better understand the agricultural potential of any farmland under consideration, as well as alert you to hazards. Having maps of the land that will be available to lease or buy helps farmers and service providers evaluate the property and assess whether it will meet the needs of the farm seeker.