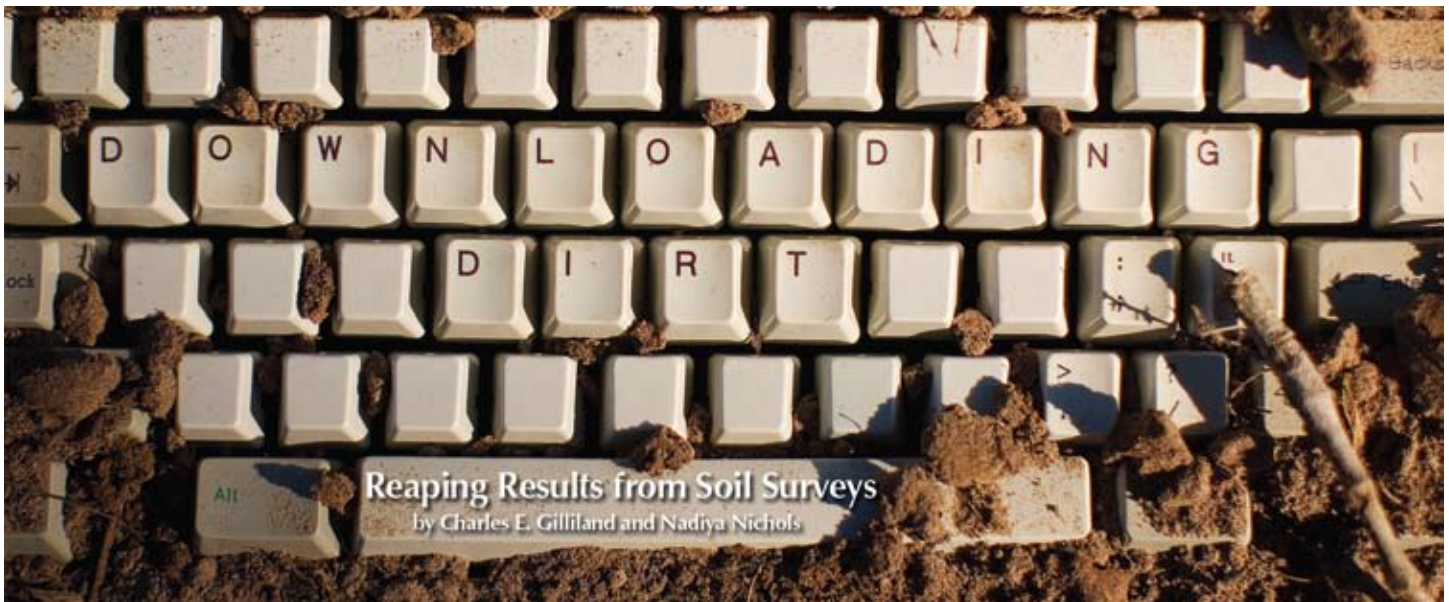


A Reprint from *Tierra Grande*

Real estate begins with soil. Soil characteristics determine a property's potential uses.

For decades, soil surveys conducted by the U.S. Department of Agriculture Natural Resources Conservation Service and its predecessors have provided a wealth of information on soil properties in locations across the country. Farmers, ranchers, engineers, developers, land-use planners, park and recreational area planners, appraisers, homebuyers and homeowners all benefit from soil survey data, which are valuable when planning property management strategies.

Farmers use information on soil properties to devise optimal combinations of tillage practices and fertilizer regimens. The data allow them to identify potential crops and expected yields for those crops. Ranchers gain insights into expected grazing yields and suitability for making hay. Engineers and developers use information on depth of soil, shrink-swell properties, wetness, erodibility, flood hazards and slope to determine the development potential of the property.

Now these soil surveys are online at the Web Soil Survey (WSS) website (<http://websoilsurvey.nrcs.usda.gov/app/>).

The WSS online database contains soil maps and data for nearly all counties in the nation. The soil map outlines the different soil types found in the geographic area covered by the map. The WSS site contains those maps and volumes of information explaining the terms and concepts underlying the survey.

Accessing the information is free and is done in three steps: first, identifying a property; second, viewing the soil maps and data related to that property; and finally, creating a customized report.

To begin, click the *Start WSS* button. Then define an *area of interest* (AOI) that specifies the geographic boundaries of the target property. This is done using the *Quick Navigation* panel (left) and/or the *Interactive Map* panel (right). One way to start

quickly is to use *Quick Navigation* to view a particular state and county, then use *Interactive Map* to highlight a tract of land containing the specific property.

After zeroing in on an area, click one of the two AOI tabs at the top of the map to trace an outline of the property boundaries with the cursor. Then right click the mouse to clip the soil map files for that area.

Click on the *Soil Map* tab to see a list of soil types found on the property. The soil map can be printed or added to a custom report.

Then select the *Soil Data Explorer* tab, which gives access to the *Suitabilities and Limitations for Use* tab and the *Soil Properties and Qualities* tab. The associated pull-down menus offer an abundance of information on soil characteristics impacting possible land uses.

The *Suitabilities and Limitations for Use* tab describes the soil's characteristics in the categories of building site development, disaster recovery planning, land classifications, land management, vegetative productivity and water and waste management. The *Soil Properties and Qualities* tab details soil chemical properties, soil erosion factors, soil physical properties, soil qualities and features, and water features. If the soil survey database includes data on a particular soil property for the AOI, the system provides a description rating for the soils.

Farmers and ranchers will likely focus on vegetative productivity to determine yields of irrigated crops or range production. Reports detail the bushels of crops or pounds of forage that specific soils will produce. Others might opt to view Wildlife Management data, which would indicate whether soils are too sandy to support wildlife grazing.

These reports can be exported to spreadsheets and word processors. The Soil Data Explorer information also can be summarized under the Soil Reports tab and then added to the Shopping Cart for a custom report of soils of the area of interest. For example, in addition to production per acre for rangeland,

the survey may also provide a breakdown of the kinds of plants seen on a typical site in the area.



To produce the final report, go to Check Out. WSS then generates a Custom Soil Resource Report. At this stage, users can enter a subtitle and choose map options from the Report Properties dialog box to produce a customized pdf file. Users can also preview and edit their custom reports in the Table of Contents panel before check out.

Landowners can combine the information gleaned from the soil survey with financial data to estimate production and income potential for their properties. For example, calculating the soil's carrying capacity is the first step in estimating income potential from a grazing lease (See "Ranching for Rookies" in *Tierra Grande*, January 2008). The data also enable an owner or potential buyer to compare results from current management with expected results.

In addition to individual analyses, WSS can provide reports on soils for entire counties. The *Soil Data Explorer* allows a comparison of the relative productivity of all soils in the

county. The map assists in identifying the most productive soils in the region. This information can be used to identify areas to explore when searching for a farm property.

Although the site requires patience because of the massive amount of data it contains, those willing to devote the time needed to explore its riches of information will find the Web Soil Survey invaluable in evaluating land resources. 📍

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THE TAKEAWAY

Landowners and potential buyers can take advantage of free online access to the massive USDA Natural Resources Conservation Service's Web Soil Survey database, which details soil characteristics that influence land uses. Users can identify a specific property, learn what types of soil the tract contains and what uses it would best support.



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