

Exploring the Soil Resource with SoilWeb

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<http://ucanr.edu/soilweb>



Introduction

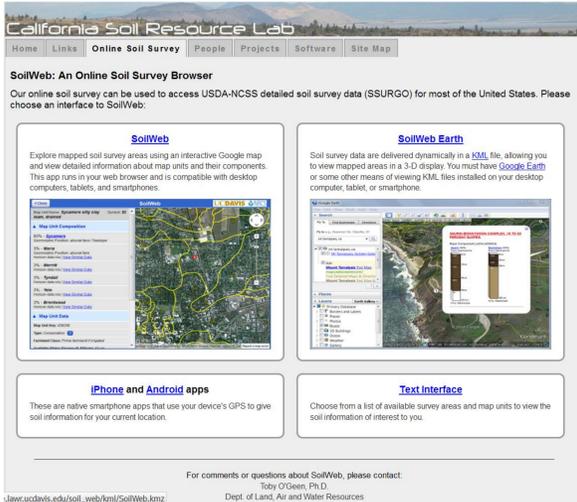


Figure 1. Main page display for apps developed by the California Soil Resource Lab. The website has a variety of apps to interact with soil survey data in a user-friendly format. The apps are designed for rapid location-based data retrieval. The newest app, called SoilWeb, operates in Google Maps and is formatted for any device (all smartphones, tablets and desktops). SoilWeb Earth was created to work in Google Earth and has added capability including availability of point data and ability to view soil map units on landforms. Native apps for iPhones and droids offer an alternative ways to interact with soil survey data.

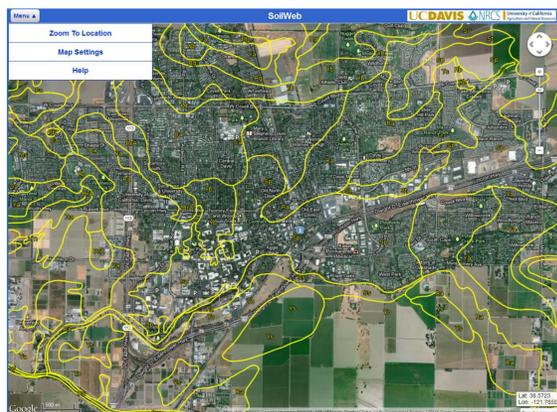


Figure 2. SoilWeb operating display. Yellow lines represent the same soil survey map unit delineations found in typical hard copy soil survey reports. The menu bar links to navigation options and map settings.

New Features

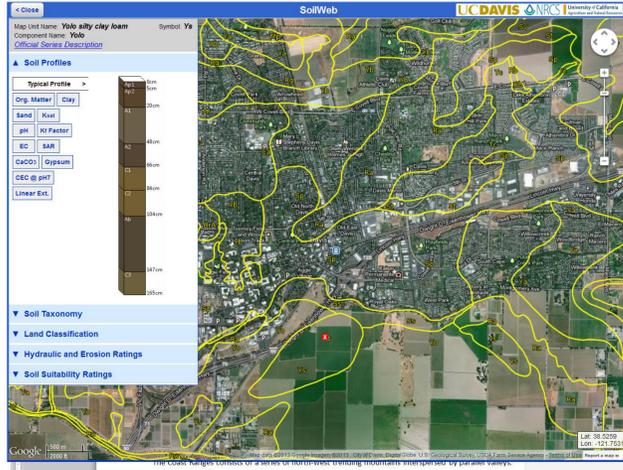


Figure 3. Component summary page. Point and click operations on the map interface lead to the map unit summary page and component summary information. The "soil profiles" tab in the component summary page offers information about soil properties and horizon sequences. Soil profiles display horizon boundaries and true colors generated from the Munsell color notation.

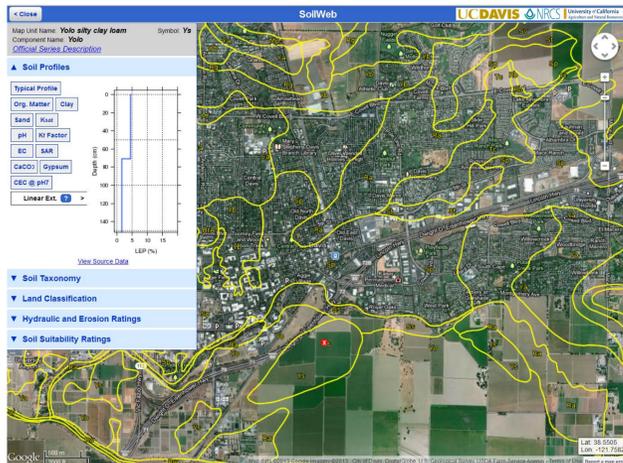


Figure 4. Soil property depth profiles. A variety of soil depth profiles of chemical and physical properties can be queried. Links to source data and definitions are also available.

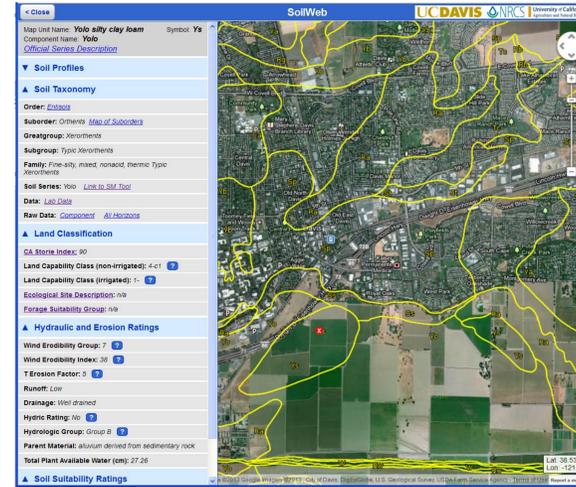


Figure 5. Interpretations and other soil information. The "soil taxonomy" tab provides an introduction to concepts of soil taxonomy. This section has links to official series descriptions and the soil series mapping extent tool. The "Land Classification" tab provides access to land productivity indices. Hydrological information and land use interpretations are also available for each soil component.

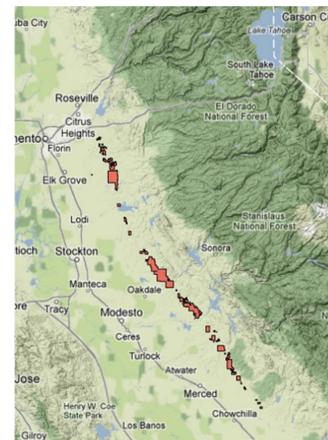


Figure 6. A prototype of the CA Soil Resource Lab's series extent tool. The tool shows where the soil type is mapped in other portions of the state when clicked on in the component summary page.

Scan this with a reader app to go to SoilWeb on your phone so you don't have to type in the URL.



Future Plans

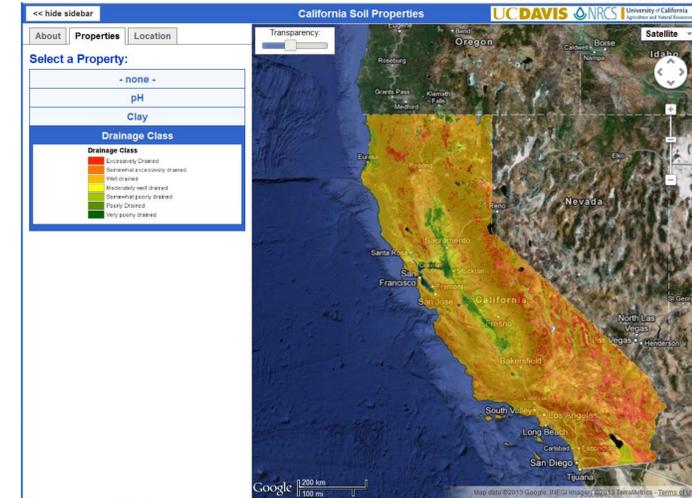


Figure 7. Soil property maps. We are creating new ways to display soils information. This draft app shows soil property maps derived from gridded (1 km²) SSURGO data. Properties such as soil organic matter, texture, depth, available water holding capacity, drainage class, soil order, land capability class, Storie Index, saturated hydraulic conductivity and more will be available.

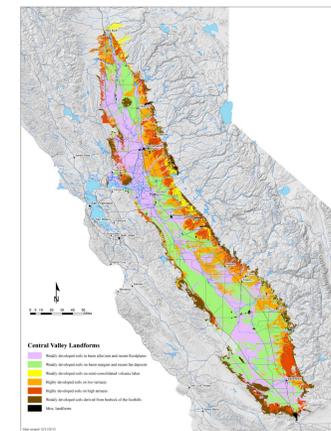


Figure 8. A platform for decision support tools. Support from ANR is being leveraged with other funds to develop interactive soil-based decision support tools such as:

1. Agricultural groundwater banking suitability index
2. Geographic nutrient management zones
3. Rangeland drought tolerance
4. Soil specific conservation practices

SoilWeb is evolving through a collaborative effort between the California Soil Resource Laboratory at UC Davis, UC ANR, and USDA-NRCS.



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