



Natural Resources Conservation Service



National Cooperative Soil Survey

Scale Issues in Web Soil Survey

USDA-NRCS

National Soil Survey Center

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Issues

- Web Soil Survey is a tool that allows selecting an Area of Interest and obtaining maps and reports about the soils within
- Soil maps are accurate to the scale at which they were mapped (dependent on the base images they were compiled to)
- Users can zoom in to any scale to view, query and print soil maps

Concern

- Possibilities that users are assuming, and passing on to their own customers, that the soils data are accurate to a scale larger than they should
- Potential (therefore) misuse of the data

Discussion

Scale	Miles/Inch	Line Width on Ground*	Examples
1:2,000,000	~32	2000'	USGS Nation-Wide Maps
1:1,000,000	~16	1000'	National and State Maps
1:500,000	~8	500'	State or Regional Maps
1:250,000	~4	250'	US Army Map Series
1:100,000	~1.6	100'	USGS 30' Quads
1:62,500	5208 feet	62.5'	USGS 15' Quads
1:24,000	2000 feet	24'	USGS 7' Quads
1:15,840	1320 feet	15.85'	Soils
1:9,600	800 feet		Aerial Photos

Approximate real width on ground of pencil line on a map

Discussion – Published Soil Surveys

Introductory Material

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

General Soil Map

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Discussion – Web Soil Survey

Shown on-screen after display of the soil map
after creating a small size AOI

⚠ Warning: Soil Map may not be valid at this scale. ✕

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Shown on the Map Information (not the map
itself) section of the Soil Map report

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Discussion – Web Soil Survey

- Is this ample?
- Does it provide sufficient alerts to users?
- Does it maintain the integrity of the field data?
- This affects Web Soil Survey; how about the users that download digital data from Soil Data Mart?

Proposals— Web Soil Survey

1. Remain the same
 - a) Two alerts are presented to users
 - b) Maintains ability of WSS to be used for closer zoomed feature analysis

2. Stop display of soil features at certain scales
 - a) Options are at scale of mapping (1:12000 or 1:24000) or at some larger scale (1:6000 was suggested)
 - b) Requires warning that map scale has been exceeded when soil lines disappear
 - c) Maintains ability of WSS to be used for closer zoomed feature analysis

3. Place disclaimer on soil map itself
 - a) Add description of scale dependent data (need help!)
 - b) Maintains ability of WSS to be used for closer zoomed feature analysis