

SDA AOI demo notes

Wednesday May 31, 2017

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Introduction

Soil Data Access (SDA) now makes it possible to define “Persistent Areas of Interest” (pAOI or AOI) and present them through Web maps. This work has been performed under “Soils FY2017 DME task 3” and is viewable in the “NITC Development” environment (“DEV”, access requires the appropriate role and use of the “NAG VPN”).

This document will take you on a quick tour of the new features in SDA. Please note that the “Test” pages presented were created for SDA development and QA testing – they are not “production quality” and intentionally allow the user to stress SDA in ways that it probably should not be used. They should only be used in Chrome (use in Firefox has not been extensively tested).

Resources

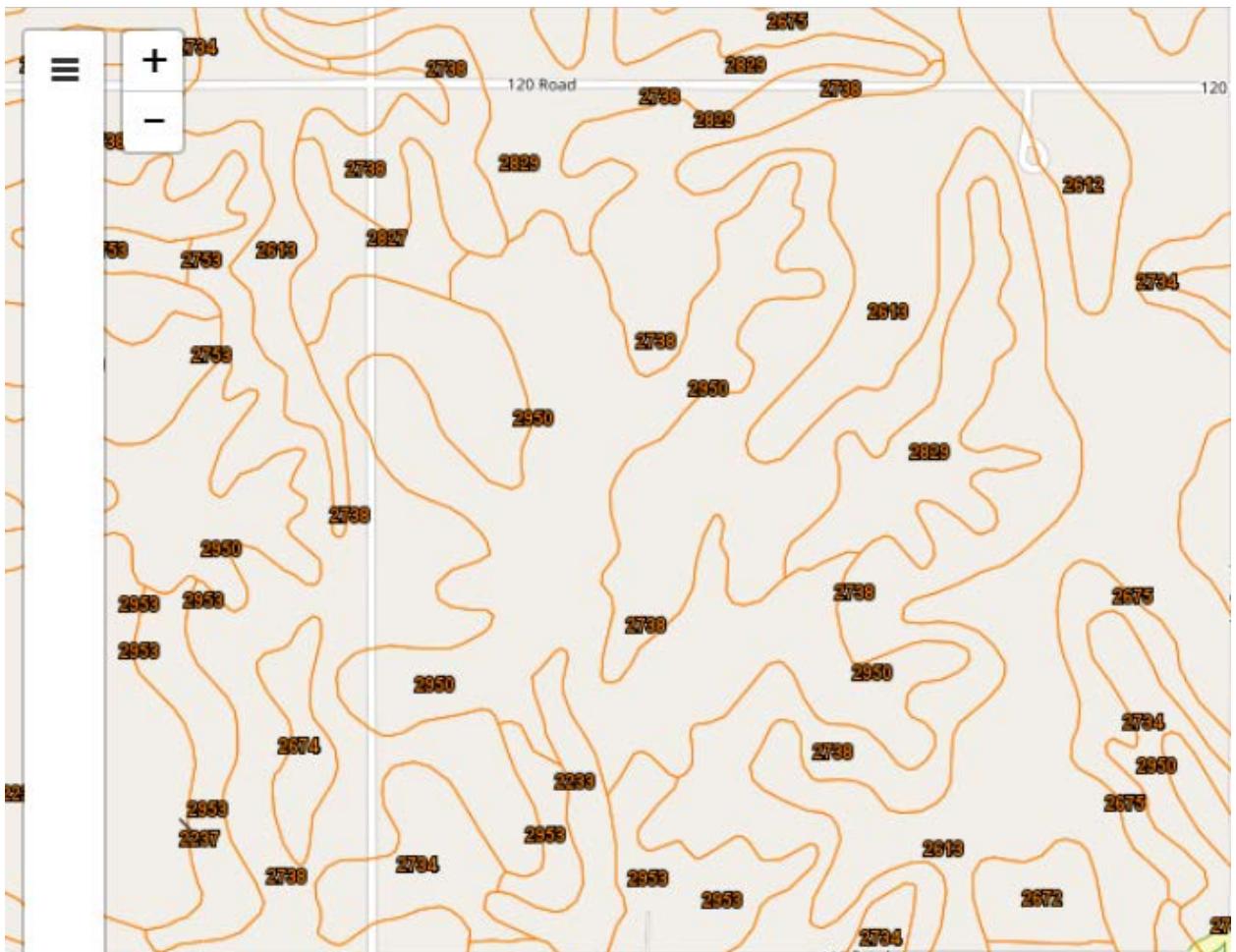
A number of documents are referenced herein, here are the links:

Soil Data Access	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/
Web Soil Survey	https://websoilsurvey-dev.dev.sc.egov.usda.gov/App/WebSoilSurvey.aspx
Web Service Help	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/webservicehelp.aspx
Layer Help	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/LayerHelp.htm
"Advanced Queries"	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/documents/AdvancedQueries.html
Test Post page	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/test/testpost.html
Test WMS page	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/test/testwms.html
Query page	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/query.aspx
This document	https://sdmdataaccess-dev.dev.sc.egov.usda.gov/test/SDA_AOI_demo_notes.pdf

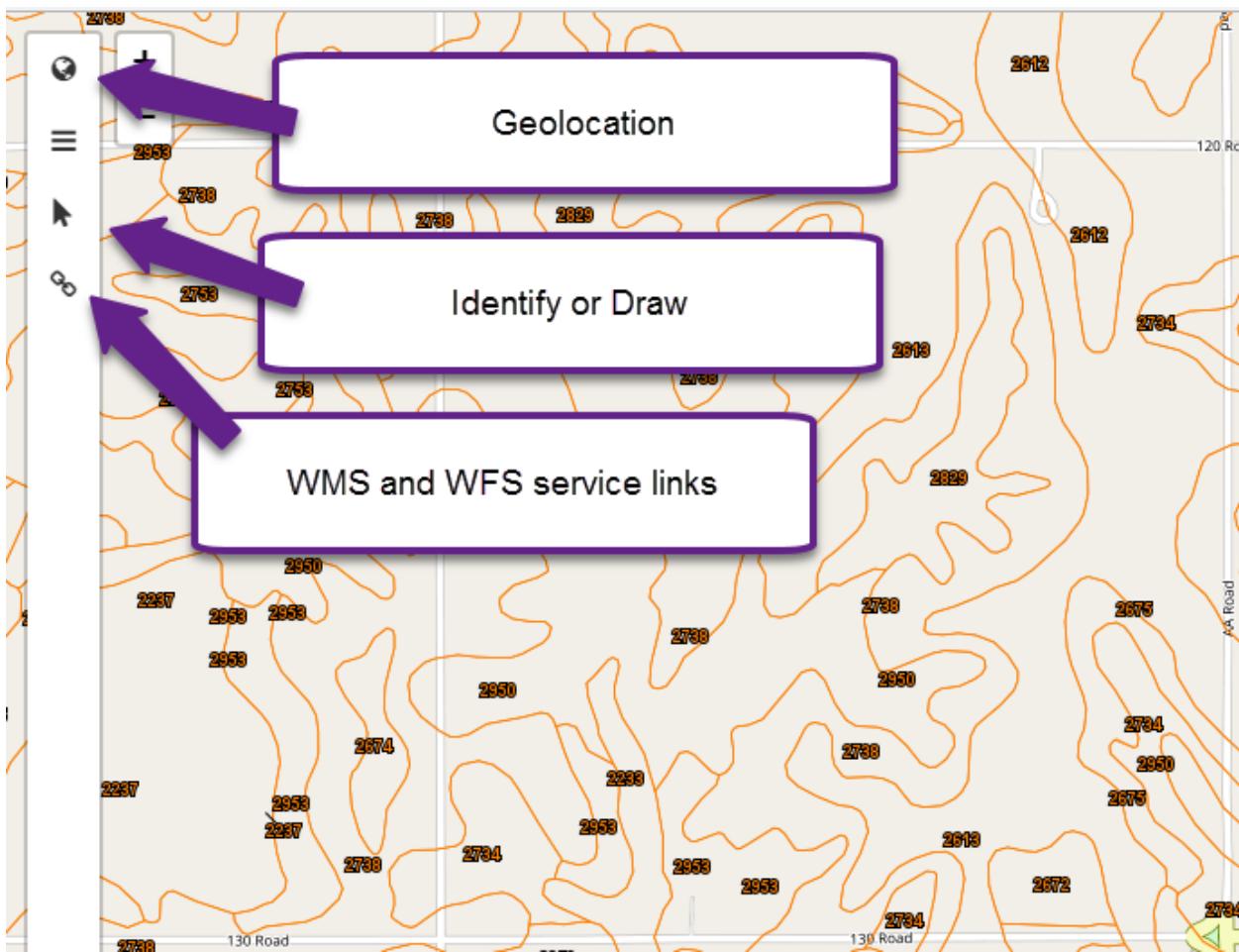
By default the Test WMS (WMS = Web Map Service) page displays a background map provided by Open Street Maps (OSM). You may switch to one of three Microsoft Bing maps by use of a Microsoft-issued access key.

Late-breaking news!

The screen shots that follow show a “sidebar” that looks like this:



The version just released into the development environment adds a few more pull-out options:



The use of these additional links will be covered in the same-named sections towards the end of this document.

Most of the functionality described here “should” work on a touch device (especially the “drawing” capability documented in the “Identify or Draw” section). This has not yet been tested. In addition the Geolocation capability is known not to work in Internet Explorer version 11 on some CTE-managed notebooks. The TestWMS page was developed using the Chrome browser, it was found to work on Firefox as well. It has not been tested in the Safari browser or on any mobile device.

Quick Start

The Test Post page will be used to define an SDA “persistent AOI” from a set of coordinates, the Test WMS page will be used to display the fruits of tasks 1, 2 and 3. Begin by establishing a NAG VPN connection and bringing up both of these pages in separate tabs of a Chrome (preferred) or Firefox Web browser.

Define a Persistent AOI

In test Post, scroll down to “Test 2: Perform REST/POST AOI-Create Query”, copy the following “Well Known Text (WKT) description of a rectangle in Smith County KS into the “AoiCoords” box:

```
polygon((-98.617 39.814,-98.617 39.843,-98.551 39.843,-98.551 39.814,-98.617 39.814))
```

SDM Data Access (Soil Data Access) Test Post

Use this SDA web page to test select POST functions within SDA.

Test 1: Perform REST/POST Tabular Query

... Click above the button again to clear the results.

Test 2: Perform REST/POST AOI-Create Query

For AOI creation, use service=aoi, request=create. AoiCoords, MuKeyList, SSA and WssAoild are mutually exclusive. Filter and/or Partname are only meaningful with AoiCoord. The parameter value for the pAOI parameter may be specified in the "(other)" area by using the name=value parameter.

name=value

Service	aoi
Request	create
AoiCoords	Paste WKT here.

...
...

After pasting the WKT scroll down a little further and click “run using POST”. After a brief delay note the pAOID (the identifier for the newly-created pAOI) appears below the button. Jot down the number that you see (you’ll need this for the next step):

Test 2: Perform REST/POST AOI-Create Query

For AOI creation, use service=aoi, request=create. AoiCoords, MuKeyList, SSA and WssAoid are mutually exclusive. Filter and/or Partname are only meaningful with AoiCoords (when the AoiCoords data is GeoJSON). An additional parameter may be specified in the "(other)" area by using a parameter name/value pair as:

name=value

Service	aoi
Request	create
AoiCoords	<pre>((-98.617 39.814,-98.617 39.843,-98.551 39.843,-98.551 39.814,-98.617 39.814))</pre>
SSA	

(other)

Click here.

1. Click following button to issue a REST/POST request.
2. Confirm that the button click returns result below the button.
3. Click above the button again to clear the results.

Test 3: GetStyles

WssAoid	
Filter	
PartName	
(other)	<p>In this instance "20601" is the identification number assigned to the newly-created AOI. Yours will be different.</p>

1. Click following button to issue a REST/POST request.
2. Confirm that the button click returns result below the button.

```
{"id":20601}
```

The SDA AOIs have a limited lifetime – they currently live at least 24 hours after you create them, then they are erased.

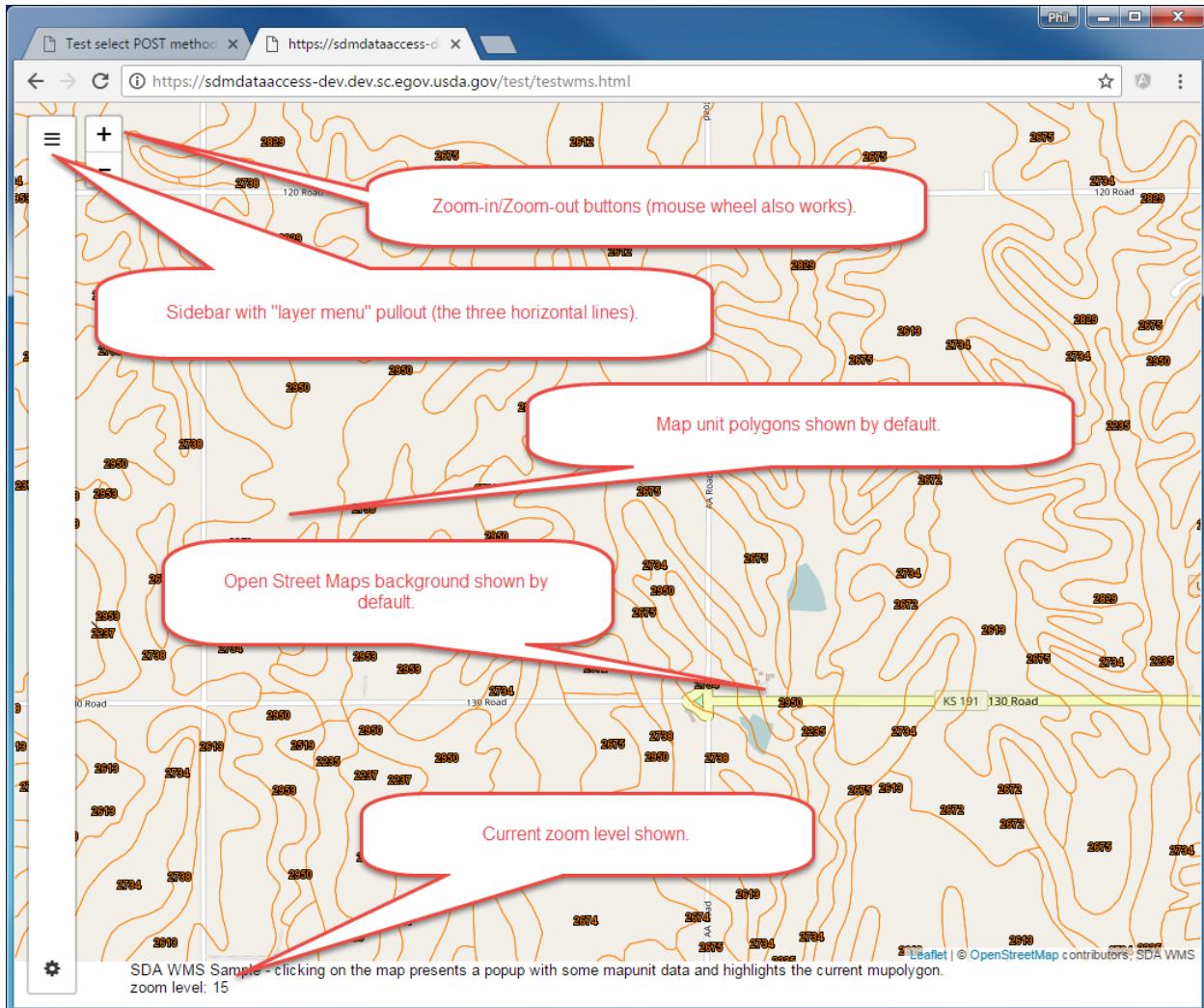
A sanity check: in a third Web browser tab start Web Soil Survey and, once the map is displayed, paste at the end of the URL

```
?aoicoords=(( -98.617 39.814,-98.617 39.843,-98.551 39.843,-98.551 39.814,-98.617 39.814))
```

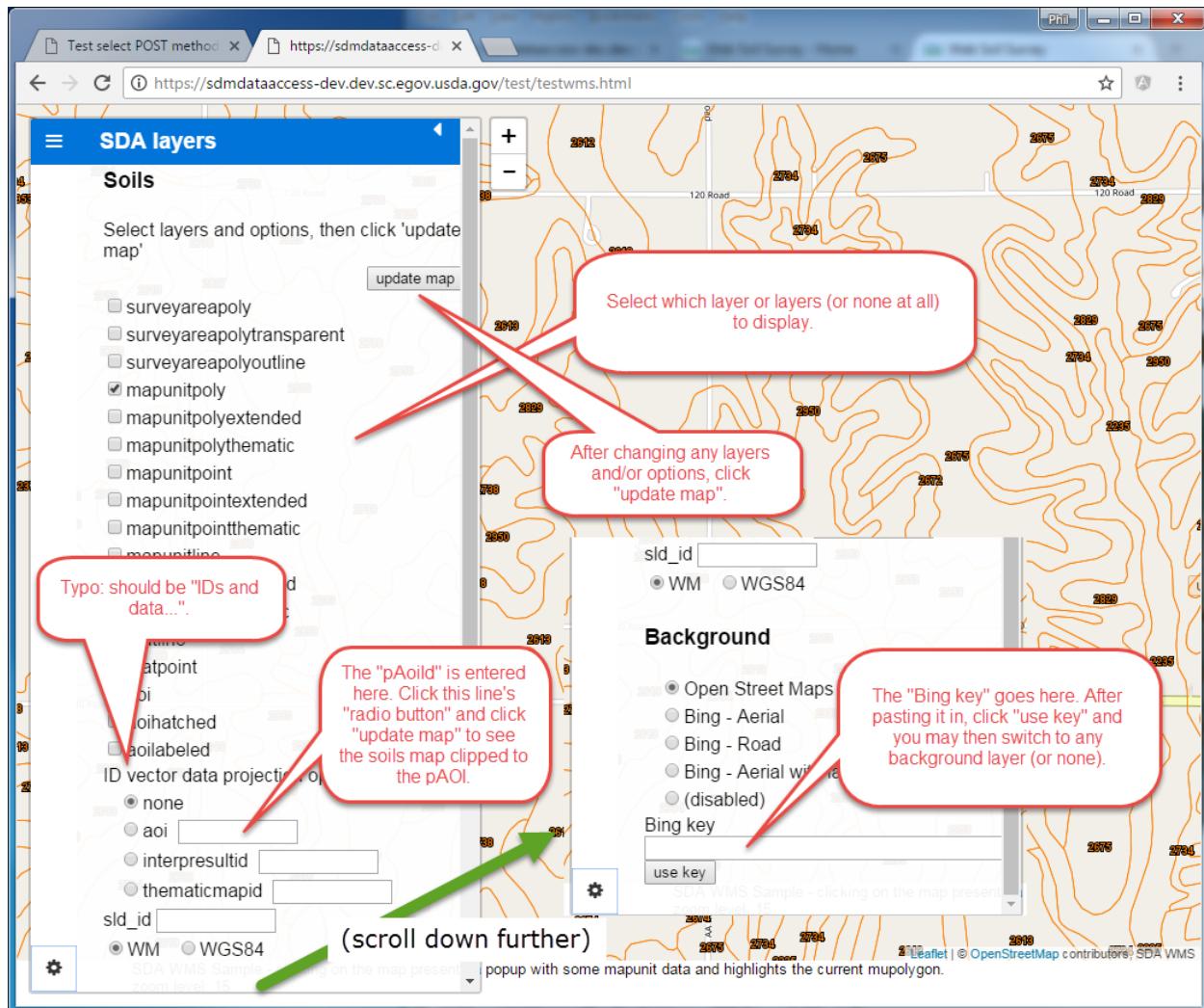
and press enter. Go to the “Soil Map” tab and keep that page open, we’ll return to it a bit later.

Explore the SDA Soils Layers

With the Test WMS page open in either Chrome or Firefox, note the following features:



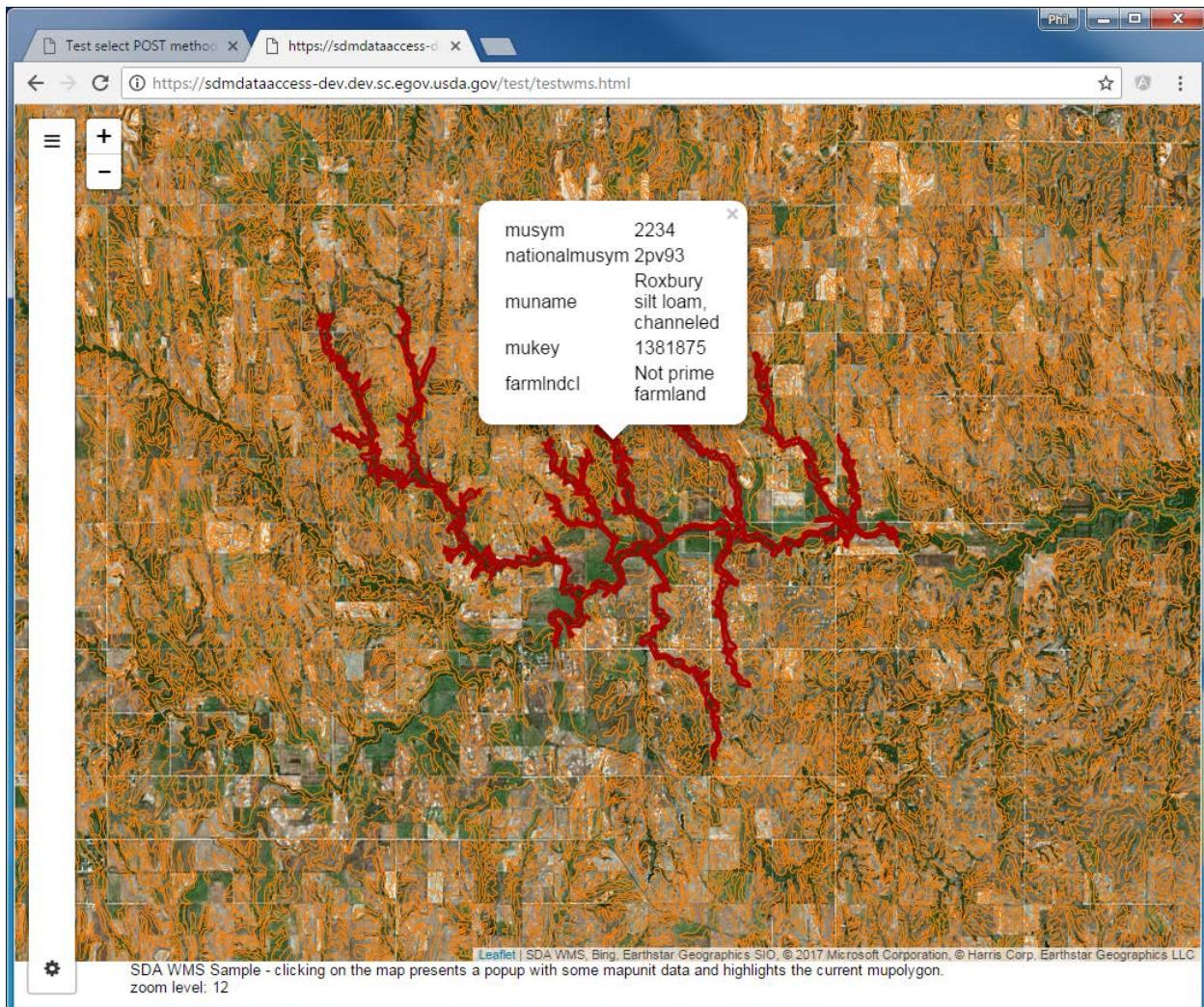
Now click on the “layer menu symbol.



The following discussion assumes you can paste in a “Bing key”.

Click “use key” and then click on the button to the left of “Bing-Aerial”. Close the slide-out menu by clicking on the “layers menu” symbol. Zoom out until you’re at zoom level 12 (either click on the “-“ button towards the top left of the page or roll your mouse’s scroll wheel towards you (map unit polygons are shown over a zoom level from 11 to 18). Zoom back in to 13, pan around by using your mouse.

While you're zoomed all the way in to 12, click inside of one of the larger map unit polygons...



The map is zoomed in or out to show the selected map unit polygon and a few attributes of the associated map unit are displayed (I'll be returning to mukey 1381775 later on).

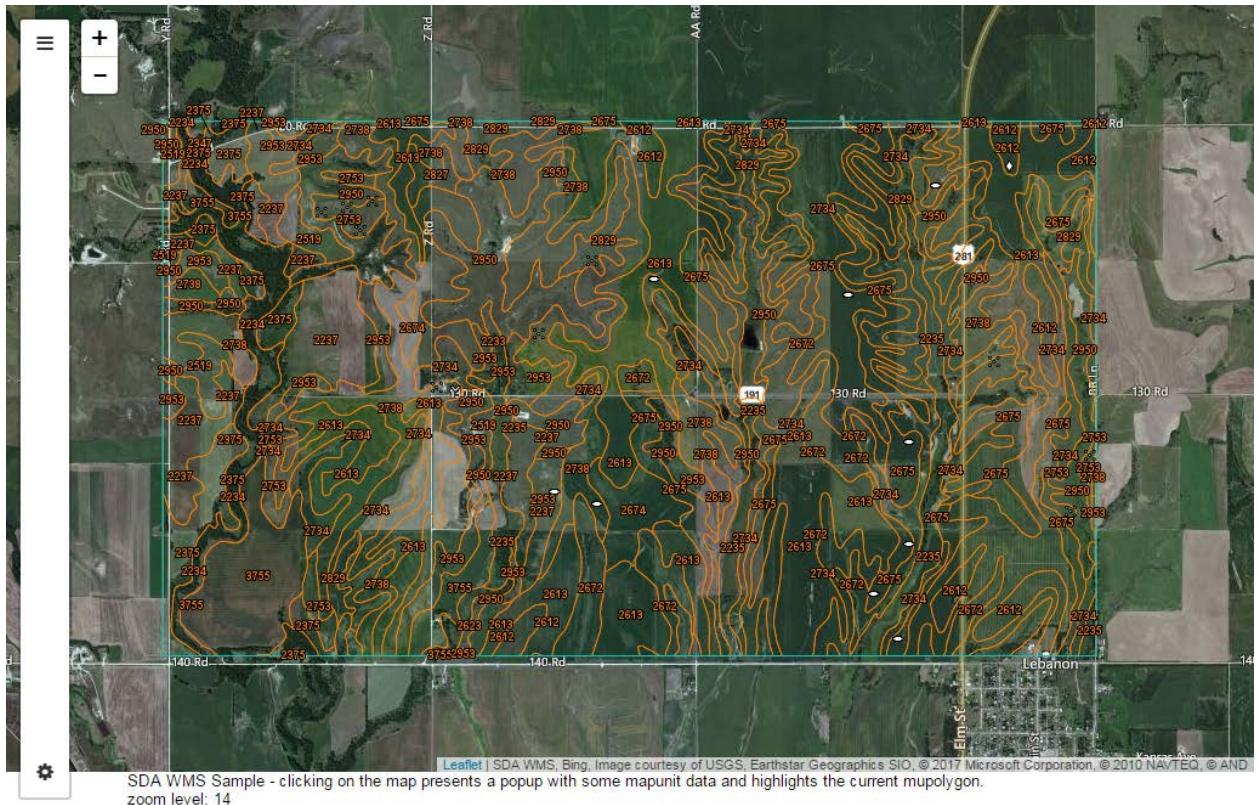
Click again within this polygon (zoom in first if necessary to be a bit more precise) and the popup and red outline will disappear). Using the layers menu select additional layers and “update map”. The symbology used for the layers matches that used in WSS.

View the SDA Persistent AOI

Pull out the layers menu, switch to the “aoi” option, enter the pAoId (in this example it is “20601”), turn on layers mapunitpoly, mapunitpoint, mapunitline, featline, featpoint, and aoihatched. Click “update map” and hide the layers menu by clicking on the layers menu symbol. Pan around and zoom in and out, the soils layers are not displayed beyond the extent of the AOI. Return to the pAOI’s original location by pulling out the layer menu, change the ID option to “none”, click update map, then turn the “aoi” option back on and click update map again. Finally turn off “aoihatch”, turn on “aoi”, select “Bing – Aerial with Labels”, click update map and close the layers menu. The map should look about the same as that shown by WSS, see next page.

Detour: note the current zoom level (likely to be 14). Zoom out step by step – at 10 the mapunits (orange) disappear and only the aoihatch (cyan) remains, at level 6 and beyond the aoihatch is replaced by a red rectangle that remains all the way out to 1 (or to 0, but the world disappears at that point). (There’s an intermittent bug in TestWMS – the red rectangle sometimes remains when you zoom back in. It can be cleared by selecting “none” in place of the aoiid, updating the map, then reselecting the aoiid and updating yet again.)

The range of zoom levels allowed in Test WMS is beyond what would be appropriate for a real product. The further out you zoom, the longer it takes to draw the soils data (this could be enhanced but



SDA above, WSS below.



[SDA Persistent AOIs](#)

The authoritative guide to the SDA AOIs is the ““Advanced Queries”” page (this document is still being edited, it does, however, reflect the work done under Task 3). Auxiliary documents are the “Web Service Help” and “Layer Help” pages. The Test Post and Test WMS pages use Web services and advanced query aids documented in these references. The documentation will not be reproduced here, rather I’ll demonstrate some use cases using the Query, Test Post and Test WMS pages.

Use of WSS AOI and thematic map data in SDA remains for Task 4, there’s brief mention in “Advanced Queries” sections “DOCUMENT UPDATES” and “OBSOLETE”. Import of a WSS AOI will be touched upon first, as it duplicates some of what you know from the “Quick Start”.

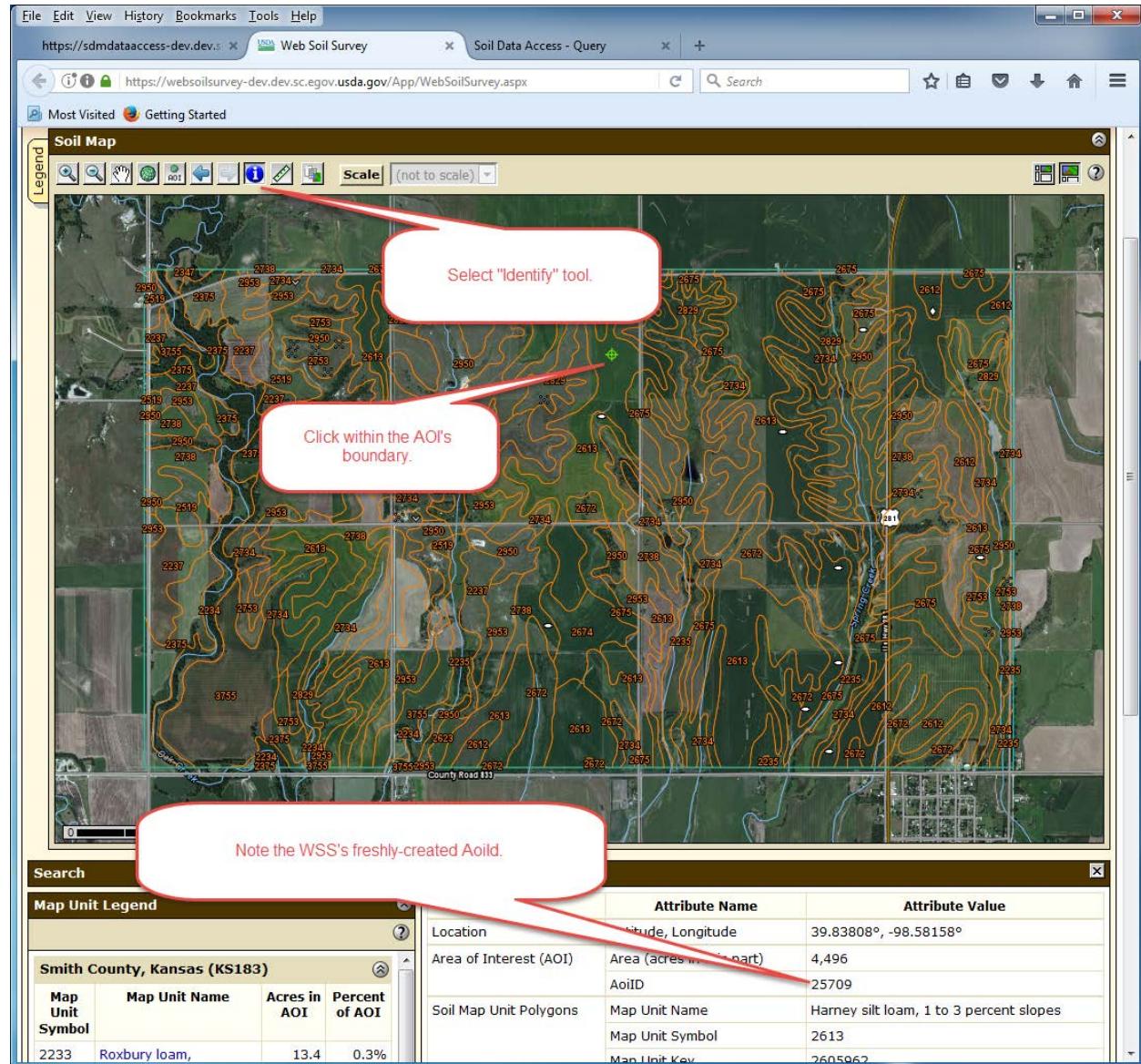
Use Case 1: Import WSS AOI

In the previously-described “sanity check” it was suggested that you open WSS and after the map was displayed append the following to the URL:

```
?aoicoords=(-98.617 39.814,-98.617 39.843,-98.551 39.843,-98.551 39.814,-98.617 39.814)
```

If you’ve already done this and your WSS session is still active we can continue, otherwise start WSS, append the above to the URL to generate a new wAOI.

On either the “AOI”, “Soil Map” or “Soil Data Explorer” pages use the “Identify” tool and click within the bounds of the AOI. Scroll down and look for the “AoID”:



There are two ways to clone the WSS AOI data into an SDA AOI, via the Query page or via a “post.rest” web service such as that offered by the Test Post page. We’ll use the Query page.

Open the query page and paste in the following SQL statements, changing the wAoiId to match the one you retrieve from WSS.

```
~DeclareInt(@wAoiId)~  
Select @wAoiId = 26709  
~CreateAoiFromWssAoi(@wAoiId,@pAoiId,@message)~  
Select @pAoiId as pAoiId,@message as message
```

Submit the query. If your WSS AOI has already expired or you mistyped the wAoiId (as I did above) you'll see

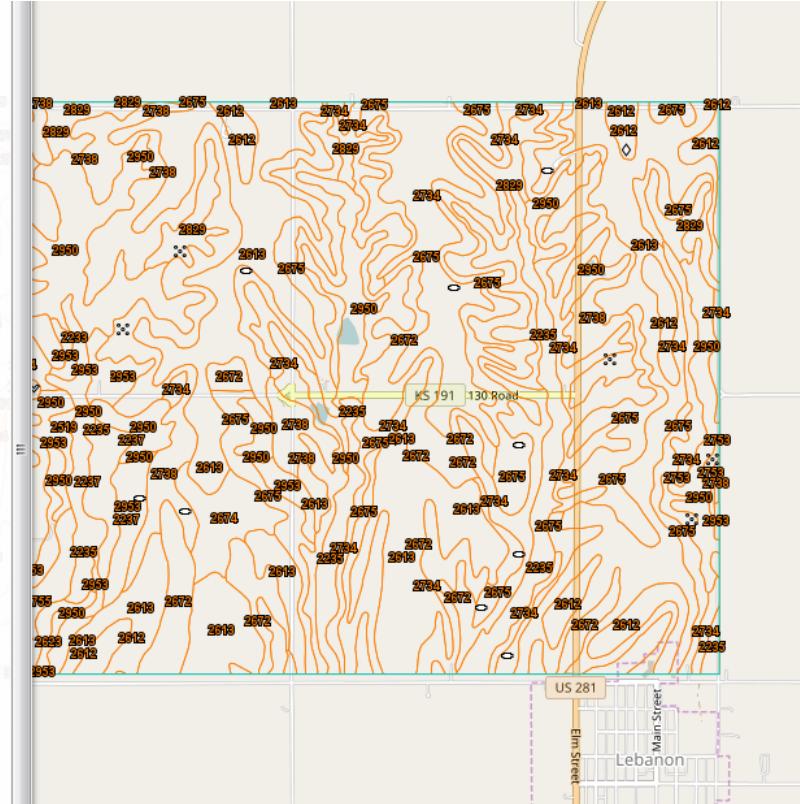
pAoiId	message
-1	WSS AOI not found for wAoiID value 26709

With a valid wAoiid,

pAoiId	message
20603	

Switch to the Test WMS page, enter the SDA AoID (20603, in this example), update the map and you have demonstrated import of the WSS AOI data into SDA:

- mapunitpoly
- mapunitpolyextended
- mapunitpolythematic
- mapunitpoint
- mapunitpointextended
- mapunitpointthematic
- mapunitline
- mapunitlineextended
- mapunitlinethematic
- featline
- featpoint
- aoi
- aoihatched
- aoilabeled



Background

Open Street Maps

Once the SDA AOI has been defined we can probe the data tables that hold the AOI. For example, what SSA (or SSAs) does this AOI intersect? Using macros and functions documented in “Advanced Queries”, along with your knowledge of the SSURGO data model, a set of SQL statements can be conjured up for use in either the Query or Test Post page. Here I’ll show Test Post with the following statements:

```
~DeclareInt(@pAoild)~  
select @pAoild = 20603  
select distinct L.areasyymbol from  
legend L, mapunit MU, SDA_Get_AoiMapunit_By_Aoild(@pAoild) A  
where MU.mukey = A.MapUnitKey and L.lkey = MU.lkey
```

Enter the statements in the “Query” box of “Test 1: Perform REST/POST Tabular Query”, click “run using POST” and then read the results (KS183) in JSON format (the button name will change after results are returned):

File Edit View History Bookmarks Tools Help

https://sdmdataaccess-dev.dev... x USDA Web Soil Survey x Soil Data Access - Query x https://sdmdataaccess...

← i lock https://sdmdataaccess-dev.dev.sc.egov.usda.gov/test/testpost.html Search

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SDM Data Access (SDA) Test Post

Use this SDA web page to test selected functions within SDA.

Test 1: Perform REST/POST Tabular Query

Query:

```
~DeclareInt(@pAoId)~  
select @pAoId = 20603  
select distinct L.areasymbol from legend L, mapunit MU, SDA_Geometry G where MU.mukey = A.MapUnitKey and G.mapunitkey = MU.mukey
```

Format

json

1. Click following button to issue a REST/POST request

clear POST results

{"Table": [{"Key": "KS183"}]}

Pasted SQL statements.

Button name changes after results are returned.

The answer: KS183.

Use Case 2: SSA-based AOI

We'll use the "Test 2: Perform REST/POST AOI-Create Query" section of the Test Post page to define an SDA AOI for KS183. Enter KS183 into the "SSA" field and click "run using POST", the new pAoId will be shown below the button:

File Edit View Bookmarks Tools Help

https://sdmdataaccess-dev.dev. x USDA Web Soil Survey x | Soil Data Access - Query x | https://sdmdataaccess-dev.dev.

← ⓘ 🔒 https://sdmdataaccess-dev.dev.sc.egov.usda.gov/test/testpost.html ⏪ ⏴ Search

Most Visited Getting Started

3. Click above the button again to clear the results.

Test 2: Perform REST/POST AOI-Create Query

For AOI creation, use service=aoi, request=create. AoiCoords, MuKeyList, SSA and WssAoId are mutually exclusive. Filter and/or Partname are only meaningful with AoiCoords (when the AoiCoords data is GeoJSON). An additional parameter may be specified in the "(other)" area by using a parameter name/value pair as:

name=value

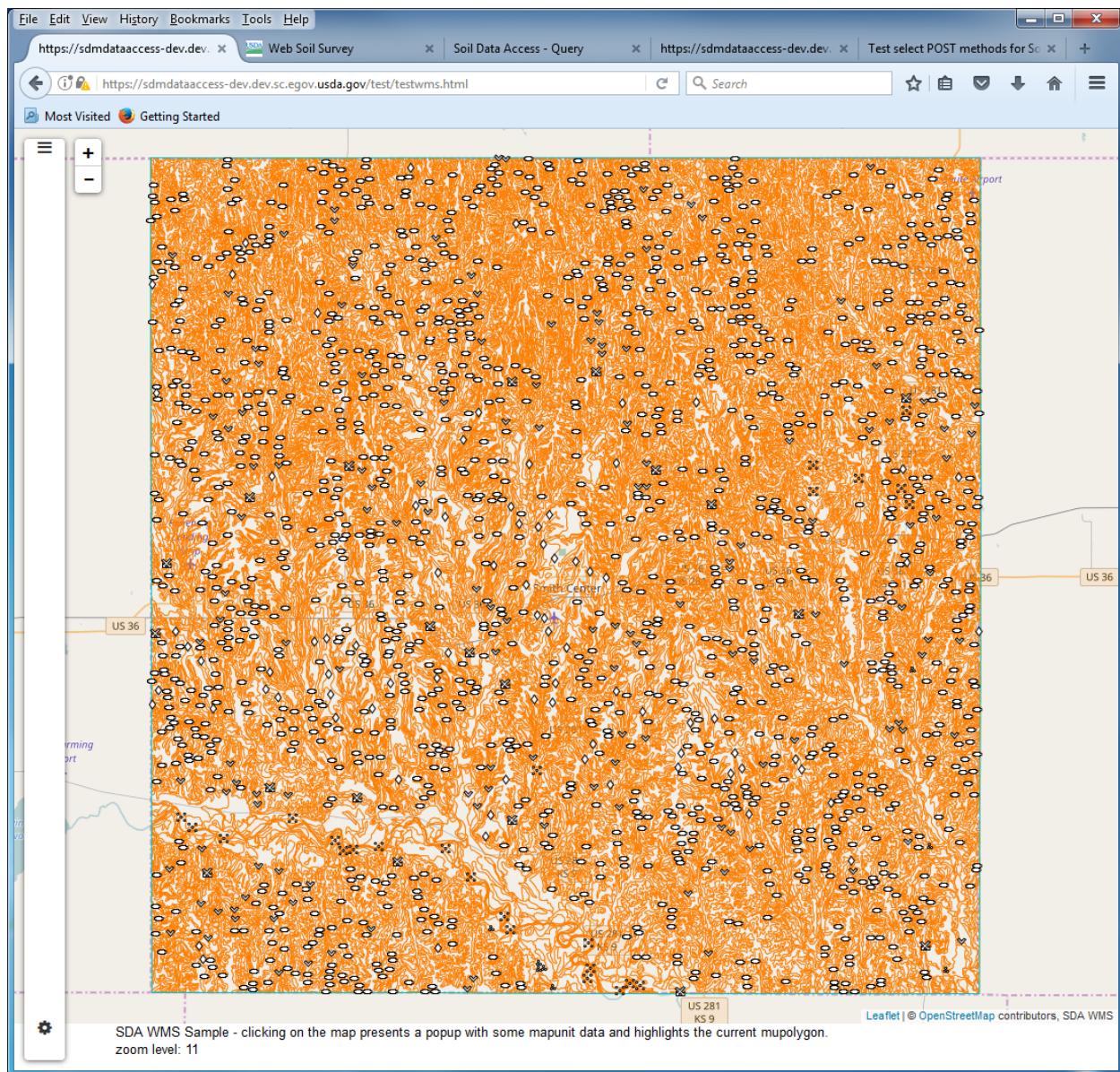
Service	aoi
Request	create
AoiCoords	
SSA	KS183
MukeyList	
WssAoId	
Filter	
PartName	
(other)	"20604" is the newly-created pAoId.

1. Click following button to issue a REST/POST-

clear POST results

{"id":20604}

The new pAoId may be used in Test WMS:



Use Case 3: Mukey List AOI

A set of mukey values may also be used to define an AOI. Using the following queries in the Query page to create an SDA persistent AOI showing specific “farmlandcl” map units in ND053:

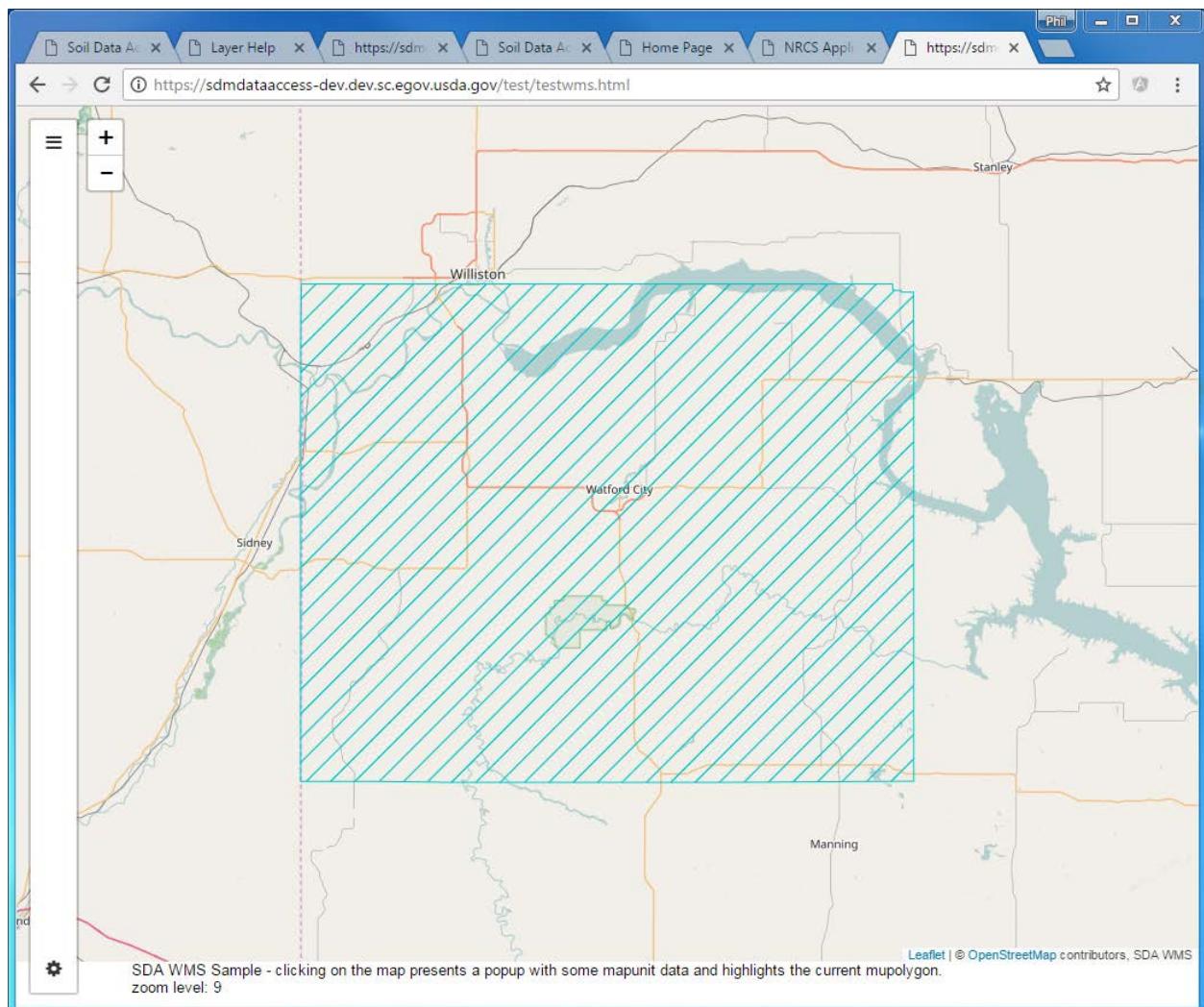
```
~DeclareIntTable(@mukeyList)~
insert into @mukeyList
select mu.mukey
from legend L left join mapunit MU on L.lkey = MU.lkey
where L.areatypename = 'Non-MLRA Soil Survey Area' and L.areasyymbol = 'ND053'
and mu.farmlndcl = 'Farmland of statewide importance';
~CreateAoiFromMukeyList(@mukeyList,@aoiid,@message)~
select count(*) [MukeyCount] from SDA_Get_AoiMapunit_By_AoiId(@aoiid);
select @aoiid [aoiid], @message [message]
```

The screenshot shows the Mozilla Firefox browser window with the title bar "Mozilla Firefox". The menu bar includes "File", "Edit", "View", "History", "Bookmarks", "Tools", and "Help". The address bar displays the URL "https://sdmdataaccess-dev.dev.sc.egov.usda.gov/QueryResults.aspx". The main content area contains two tables. The first table, titled "MukeyCount", has one row with the value "85". The second table, titled "aoiid message", has one row with the values "20605" and an empty string respectively.

MukeyCount	
	85

aoiid	message
20605	

In Test WMS, my browser shows zoom level 9 and the map unit polygons are not visible:



Not until zoom level 11 are the map unit polygons visible. For Mukeylist AOIs the AOI boundary is shown on the map as the union of envelopes around the individual map unit's map unit polygons. From the above outline it appears that the select set of map units are found throughout ND053.

The mukey values may also be specified through Test Post, for example:

Test 2: Perform REST/POST AOI-Create Query

For AOI creation, use service=aoi, request=create. AoiCoords, MuKeyList, SSA and WssAoild are mutually exclusive. Filter and/or Partname are only meaningful with AoiCoords (when the AoiCoords data is GeoJSON). An additional parameter may be specified in the "(other)" area by using a parameter name/value pair as:

name=value

Service	aoi
Request	create
AoiCoords	
SSA	
	58186, 58202,58229,58230
MukeyList	
WssAoild	
Filter	
PartName	
(other)	

1. Click following button to issue a REST/POST request.

{"id":20607}

Use Case 4: Ad-Hoc AOI

The “Quick Start” section demonstrated definition of an ad-hoc AOI by WKT specification. In addition to WKT “GeoJSON” may be used (that format allows for part naming and filtering, see “Advanced Queries” for an example).

Using the following example containing a “partName” property

```
[  
  {  
    'type': 'FeatureCollection',  
    'features': [  
      {  
        'type': 'Feature',  
        'geometry': {  
          'type': 'Polygon',  
          'coordinates':  
            [[[[-100.0,40.0],[-100.1,40.0],[-100.1,40.1],  
              [-100.0,40.1],[-100.0,40.0]]]  
        },  
        'properties': {'partName': "Sister"}  
      },  
      {  
        'type': 'Feature',  
        'geometry': {  
          'type': 'Polygon',  
          'coordinates':  
            [[[[-100.2,39.8],[-100.3,39.8],[-100.3,39.9],  
              [-100.2,39.9],[-100.2,39.8]]]  
        },  
        'properties': {'partName': 'Brother'}  
      }  
    ]  
  }]
```

Paste it into the Test Post page,

AoiCoords

```
{  
  'type': 'FeatureCollection',  
  'features': [  
    {  
      'type': 'Feature',  
      'geometry': {  
        'type': 'Polygon',  
        'coordinates':  
          [[[[-100.0,40.0],[-100.1,40.0],[-100.1,40.1],  
            [-100.0,40.1],[-100.0,40.0]]]  
      },  
      'properties': {'partName': "Sister" }  
    },  
    {  
      'type': 'Feature',  
      'geometry': {  
        'type': 'Polygon',  
        'coordinates':  
          [[[[-100.2,39.8],[-100.3,39.8],[-100.3,39.9],  
            [-100.2,39.9],[-100.2,39.8]]]  
      },  
      'properties': {'partName': 'Brother' }  
    }  
  ]  
}
```

SSA

MukeyList

WssAoId

Filter

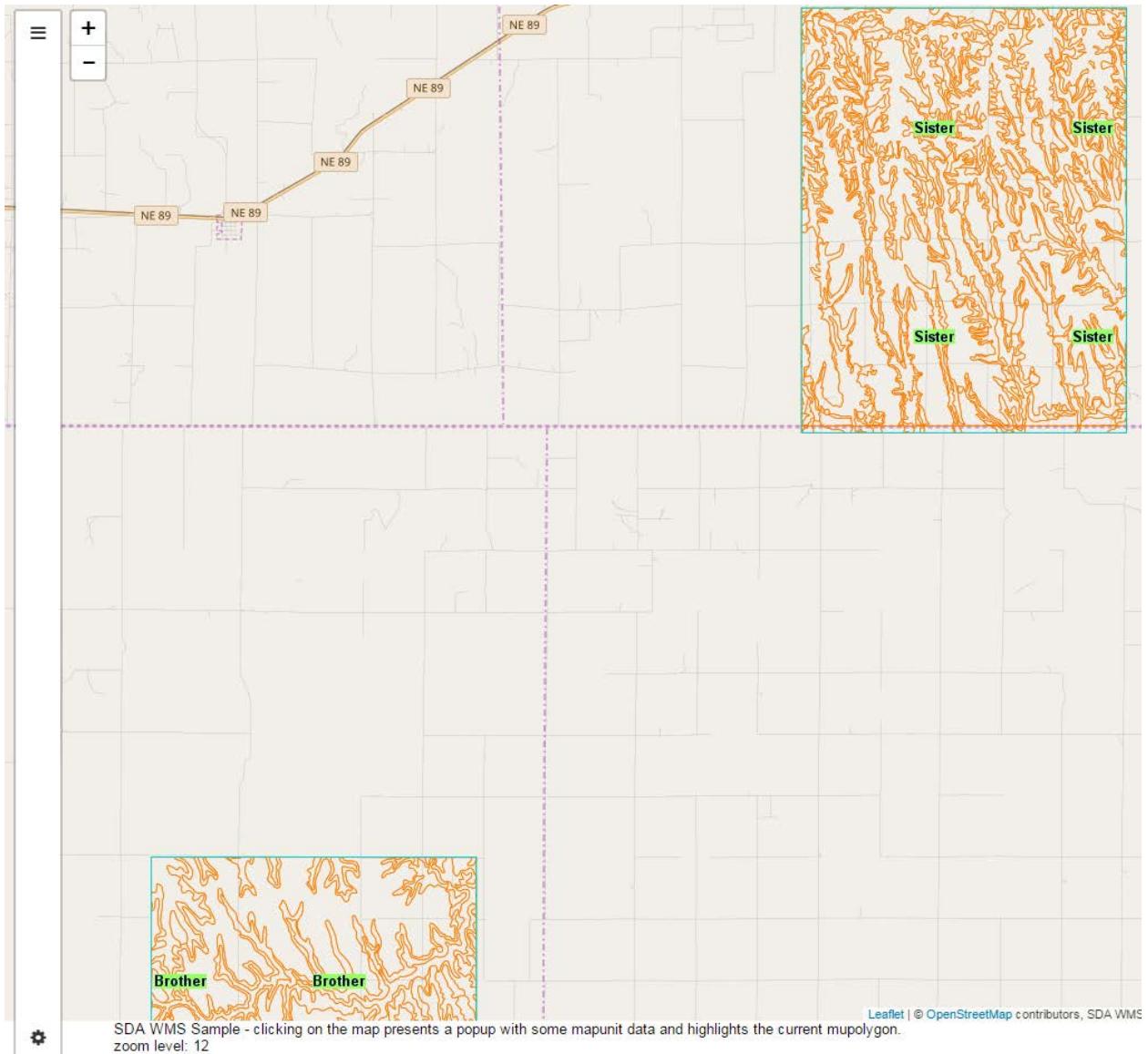
PartName

(other)

1. Click following button to issue a REST/POST request.

{"id":20608}

Within the Test WMS page the “aoilabeled” layer may be selected to show the parts of the multi-part AOI:



Use Case 5: Add Styled Layer Descriptor to AOI

Earlier in this document an AOI was shown for pAoId = 20603. Let's assume that the polygon boundaries are to be shown in cyan instead of orange. An easy way to get started with an SLD is to grab one from the Test Post page's "Test 3: GetStyles" and "Test 4: GetMap/SLD-Body" sections.

The screenshot shows a web browser window with two sections: "Test 3: GetStyles" and "Test 4: GetMap/SLD-Body".

Test 3: GetStyles

Layername: mapunitpoly

1. Click following button to issue a REST/POST request for the layer's styles.
run using POST
...cleared...

2. Confirm that the button click returns result.
3. Click above the button again to clear the results.

This is the layer we want.

Test 4: GetMap/SLD-Body

SLD_BODY:

BBOX W,S,E,N -102.65253,38.18368,-102.59682,38.21139

1. Click following button to issue a REST/POST request for the layer's map.
run using POST
...cleared...

2. Confirm that the button click returns result, as a map image, below the button.
3. Click above the button again to clear the results.

The mapunitpoly's default SLD, formatted for easier reading, will also appear here.

You can edit the text in-situ under Test 4 and see the result below the “run using POST” button. In this example the PolygonSymbolizer / Stroke / CssParameter name="stroke" value will be changed from “#ff8000” (orange) to “00ffff” (cyan). After making the change in the “SLD_BODY” box and clicking the “run using post” button, a map is produced using the new color specification:

Test 4: GetMap/SLD-Body

```

<UserStyle>
  <FeatureTypeStyle>
    <Rule>
      <MinScaleDenominator>0.010000</MinScaleDenominator>
      <MaxScaleDenominator>250000.000000</MaxScaleDenominator>
      <PolygonSymbolizer>
        <Stroke>
          <CssParameter name="stroke">#00ffff</CssParameter>
          <CssParameter name="stroke-width">0.75</CssParameter>
        </Stroke>
      </PolygonSymbolizer>
      <TextSymbolizer>
    </Rule>
  </FeatureTypeStyle>
</UserStyle>

```

SLD_BODY:

BBOX W,S,E,N -102.65253,38.0368,-102.59682,38.21139

1. Click following button to initiate a REST/POST request for the layer's map following the SLD.

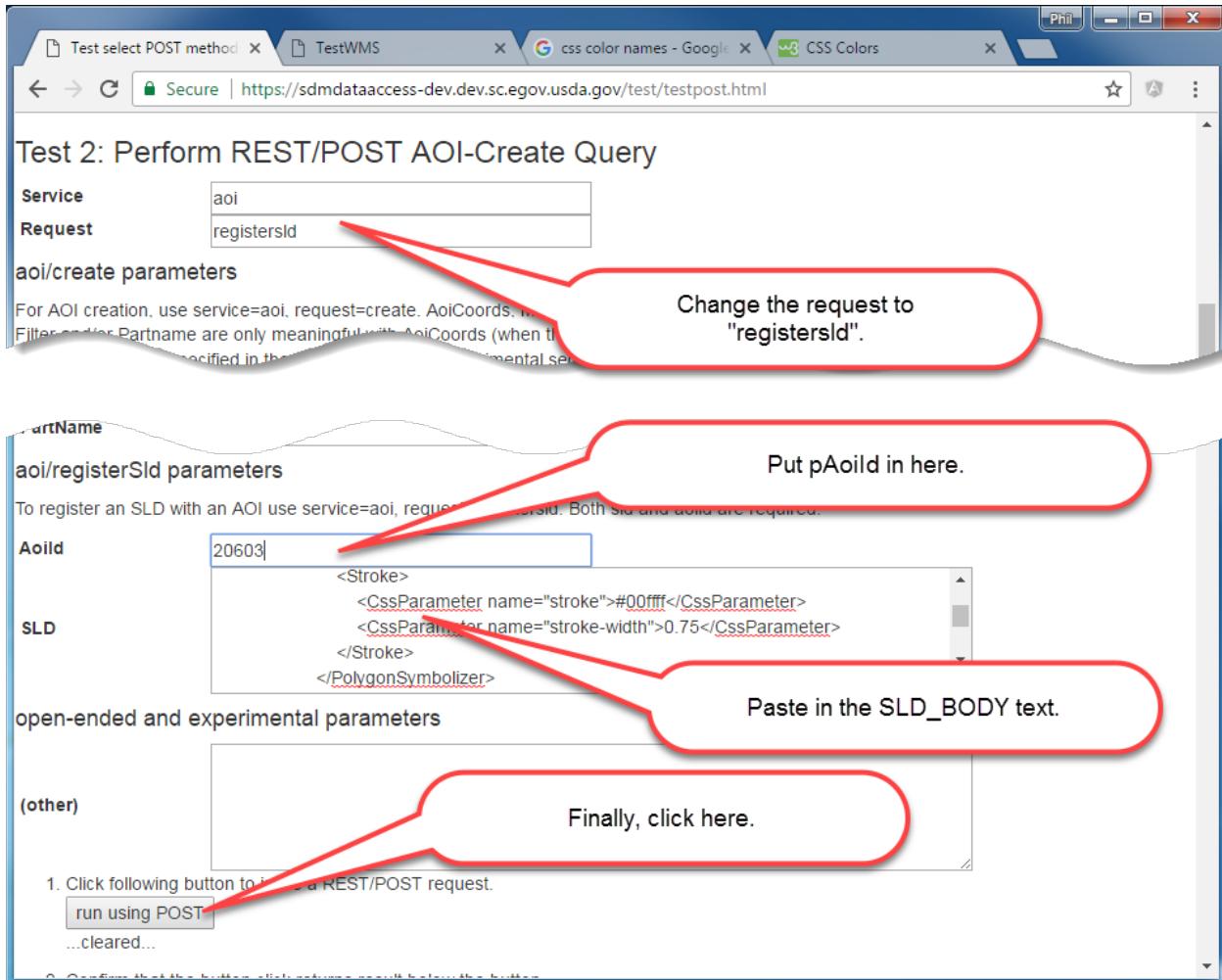
clear POST results

Image (image/jpeg) shown below

2. Confirm that the button click returns result, as a map image, below the button.

3. Click above the button again to clear the results.

Your edited SLD_BODY text can be copied and pasted into the Test Post page to register the SLD with pAoId 20603:



Here's the new sld_id, created by registering the SLD_BODY with the pAOI:

The screenshot shows a web browser window with the URL <https://sdmdataaccess-dev.dev.sc.usda.gov/test/testpost.html>. The page contains a form for registering an SLD with an AOI.

aoi/registerSld parameters

To register an SLD with an AOI use service=aoi, request=registerSld. Both sld and aoid are required.

AoId: 20603

SLD:

```
<Stroke>
<CssParameter name="stroke">#00ffff</CssParameter>
<CssParameter name="stroke-width">0.75</CssParameter>
</Stroke>
</PolygonSymbolizer>
```

open-ended and experimental parameters

(other):

1. Click following button to issue a REST/POST request.

clear POST results

{"sld_id":7}

The button labeled {"sld_id":7} is circled in red.

The new SLD_ID can be used in conjunction with the pAoId in TestWMS:

SDA layers & IDs

Soils

Select layers and options, then click update map

- surveyareapoly
- surveyareapolytransparent
- surveyareapolyoutline
- mapunitpoly
- mapunitpolyextended
- mapunitpolythematic
- mapunitpoint
- mapunitpointextended
- mapunitpointthematic
- mapunitline
- mapunitlineextended
- mapunitlinethematic
- featline
- featpoint
- aoi
- aoihatched
- aoilabeled

ID vector data projection options

- none
- aoi 20603
- interpresrid
- thematicmapid
- sld_id 7
- WM
- WGS84

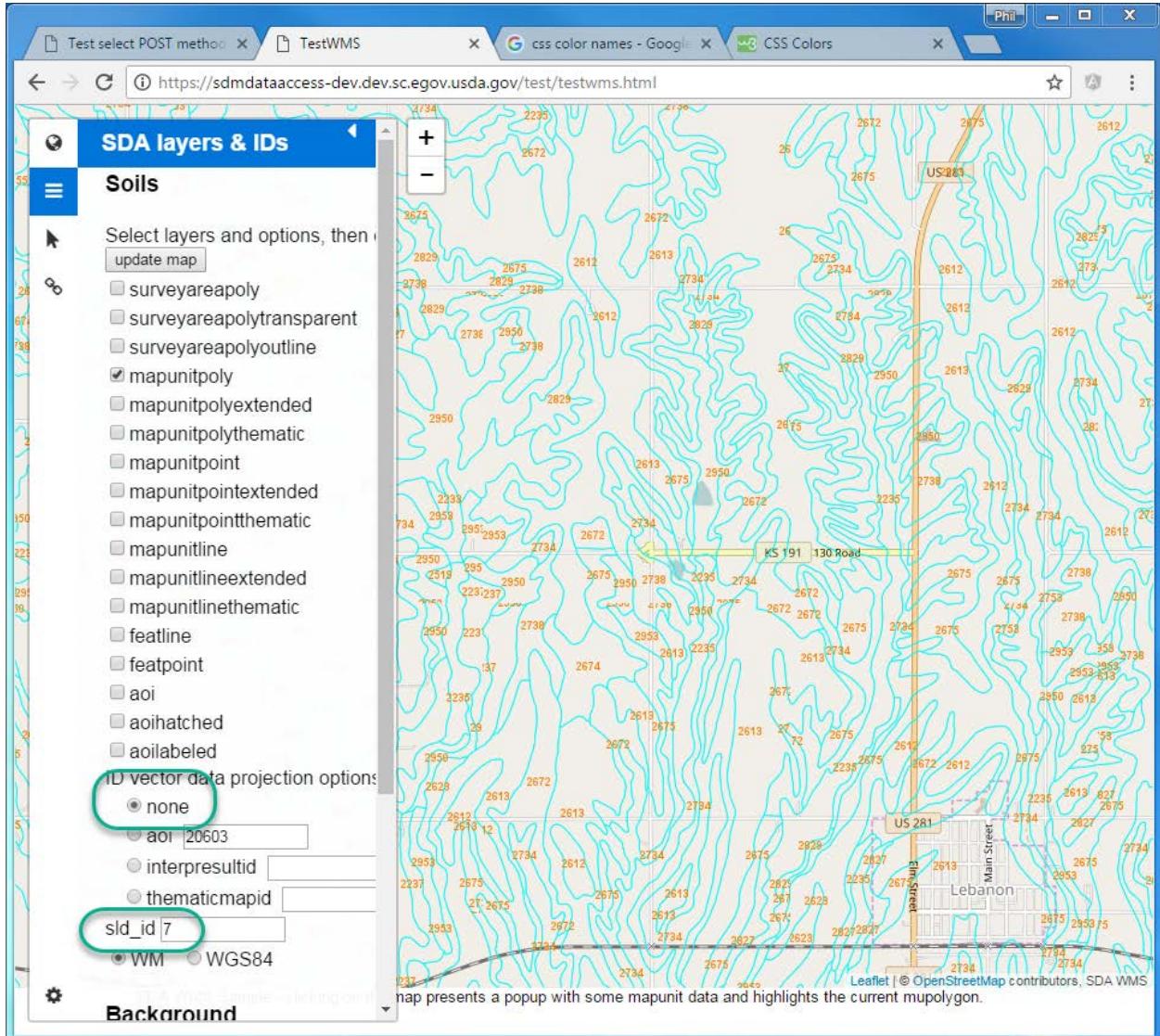
Background

Remember to click here after changing any soil layer selection or ID choice or value.

Leaflet | OpenStreetMap contributors, SDA WMS

SDA WMS Sample - clicking on the map presents a popup with some mapunit data and highlights the current mapunit polygon.

Once an SLD_BODY is registered and you have an SLD_ID, that ID can be used with other pAoilds or even with no pAoild at all:



Other Use Cases

“Advanced Queries” describes other methods for defining persistent SDA AOIs. For example shapefiles may be imported (this requires a Python or Windows Powershell script, samples are available) and as a tentative possibility for CD projects, AOIs based upon PLU may be used as well (the PLU capability will likely not be publically advertised or available).

Geolocation

Web applications, using the “Geolocation API”, can determine your device’s current location (for privacy reasons, you are asked for permission to report location information). This location determination is approximate and depends upon a number of factors (see <http://www.andygup.net/html5-geolocation-api-%E2%80%93-how-accurate-is-it-really/> and https://en.wikipedia.org/wiki/W3C_Geolocation_API).

Per the Wikipedia article,

Usually geolocation will try to determine a device's position using one of these several methods.

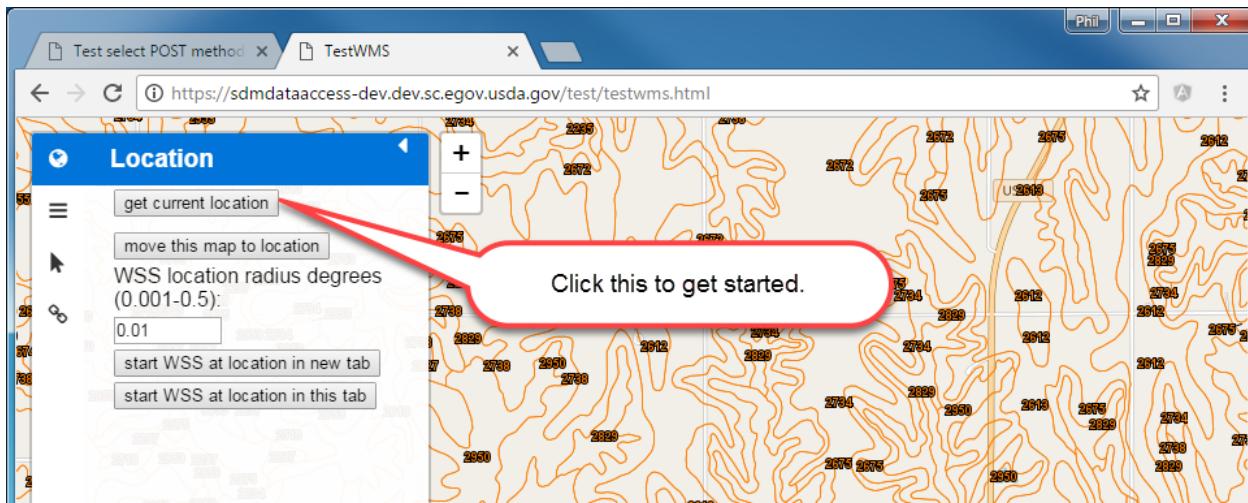
GPS (Global Positioning System)

This happens for any device which has GPS capabilities. A smartphone with GPS capabilities and set to high accuracy mode will be likely to obtain the location data from this. GPS calculate location information from the satellite signal. It has the highest accuracy; in most Android smartphones, the accuracy can be up to 10 metres.

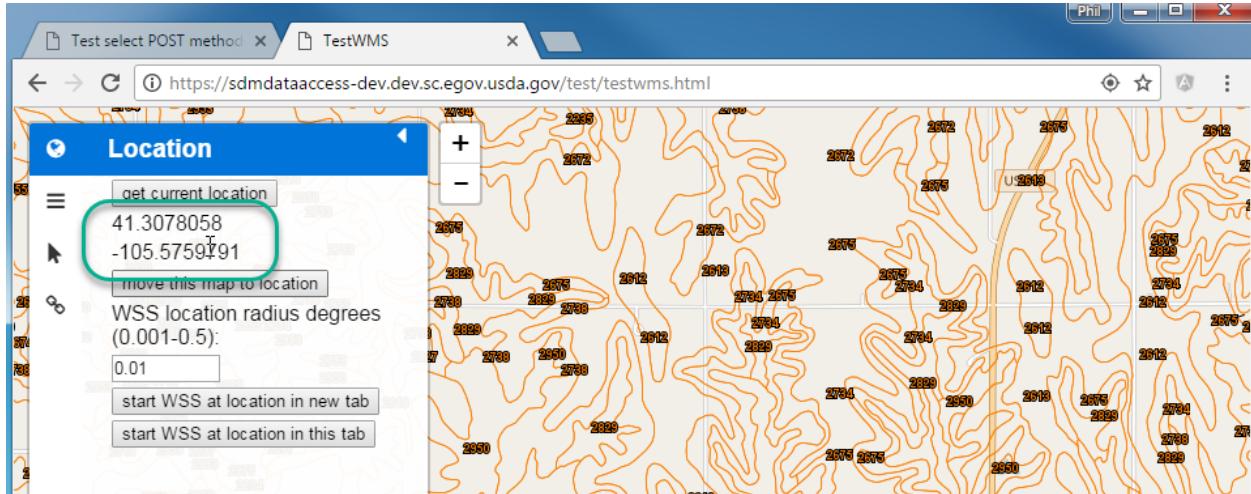
Your mileage will vary.

By default the TestWMS page starts roughly at the center of the 48 contiguous US states, we can move to our current location.

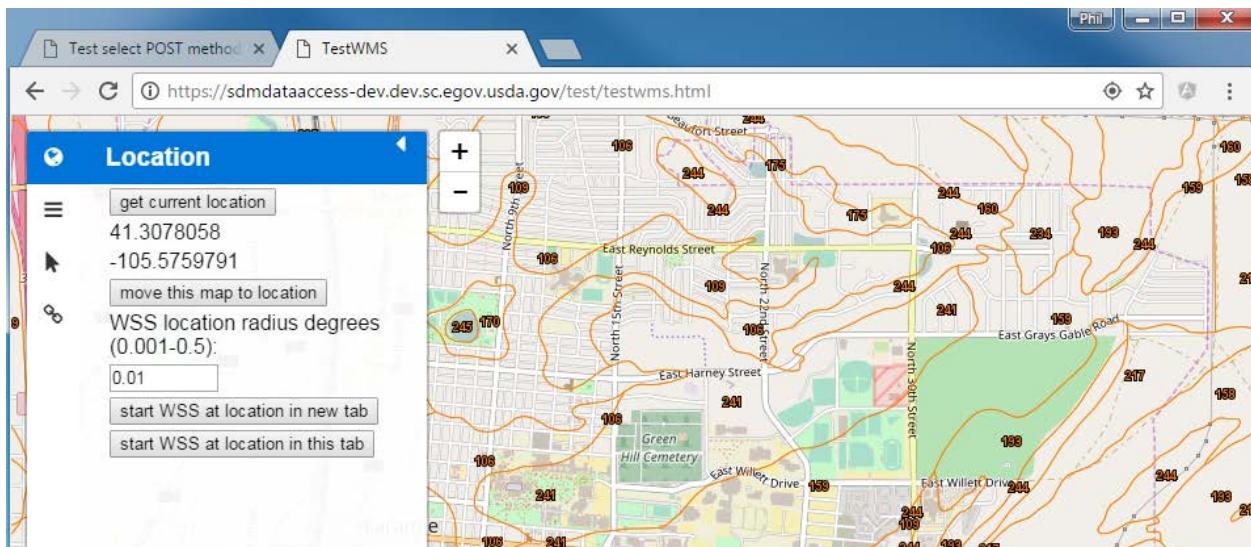
Pull out the Geolocation tab on the sidebar:



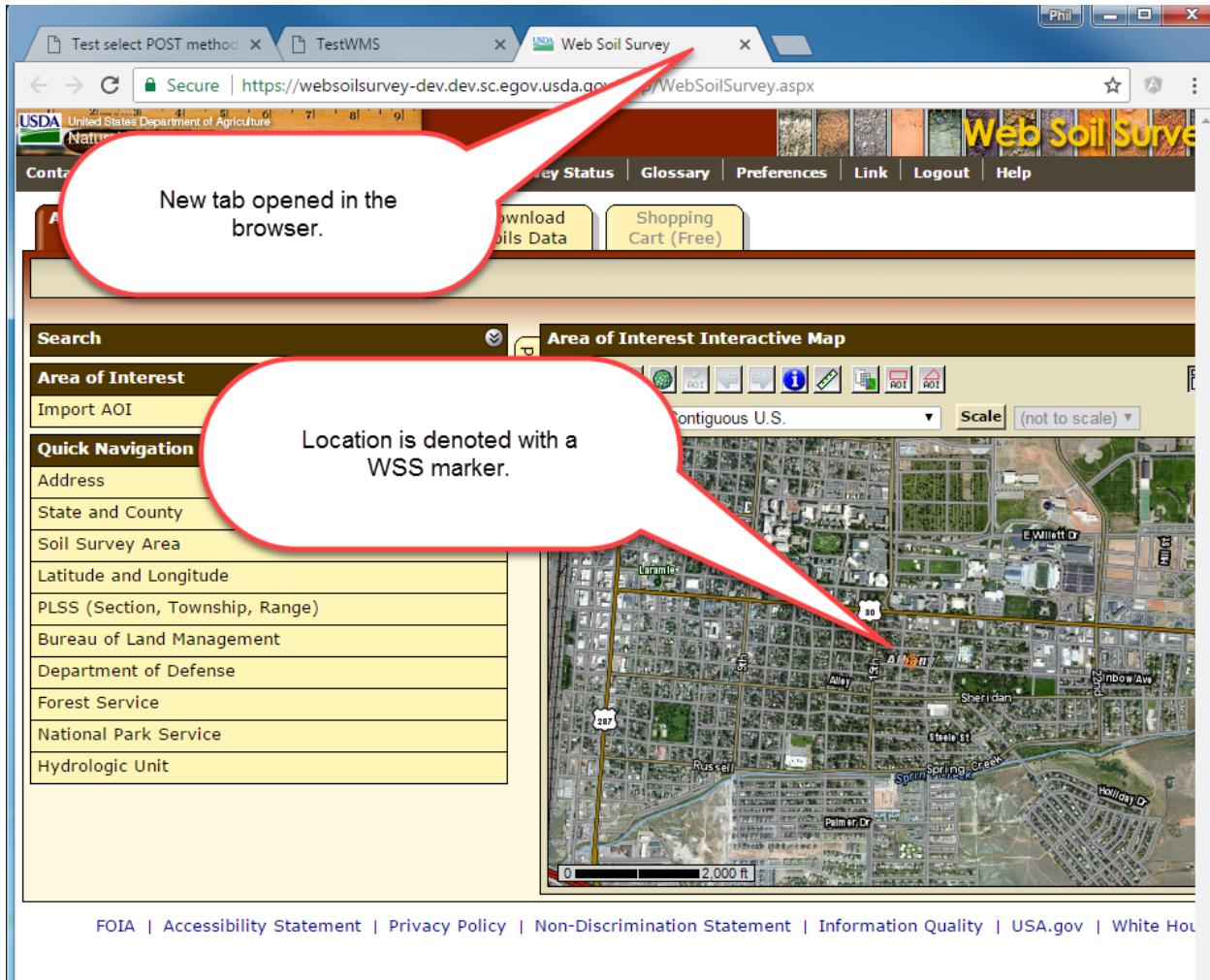
Once your location has been determined (you'll get a popup asking for your permission, Internet Explorer will likely deny you permission),



you can use any of the remaining buttons. For example, clicking on the “move this map to location” pans the map to the identified location:



There are two alternatives to starting Web Soil Survey at the identified location. By default WSS is started with a displayed area about 0.01 degrees around the identified point, this can be changed as desired before clicking on the either of the “start WSS...” buttons. Here I’ve clicked on the “start WSS at location in new tab” button:



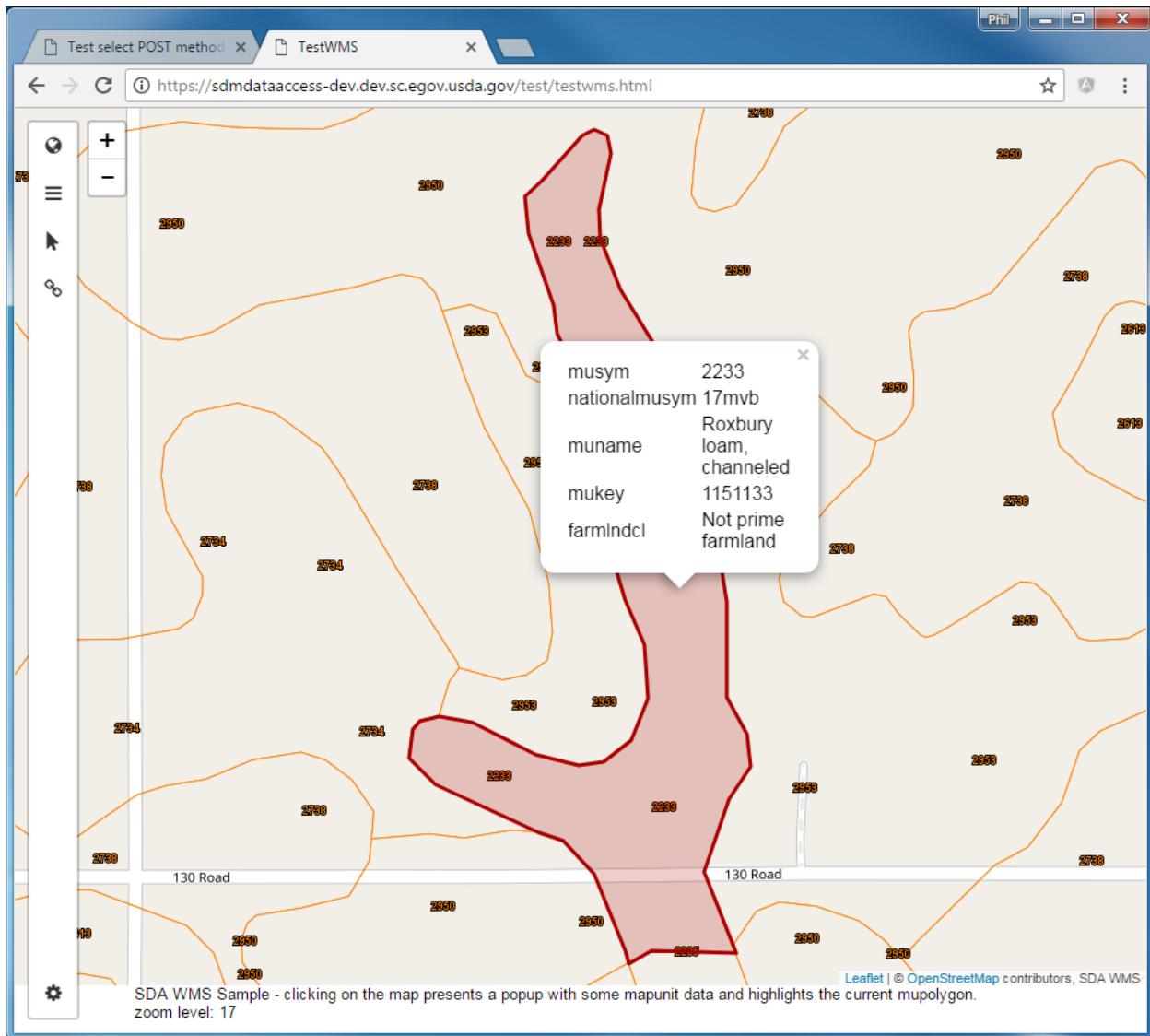
What can go wrong here?

1. WSS was previously opened in the browser and you did not log out but you did close the browser’s WSS tab. In that case you may see a WSS “Session Ended” page. Close the WSS tab, return to Test WMS and click on the button again.
2. WSS has gone “to sleep” in the development environment (this is unlikely in the production environment where WSS is in constant use). In this case, after a delay, WSS will show up with the default map extent displayed. Close the WSS tab, return to Test WMS and click on the button again.

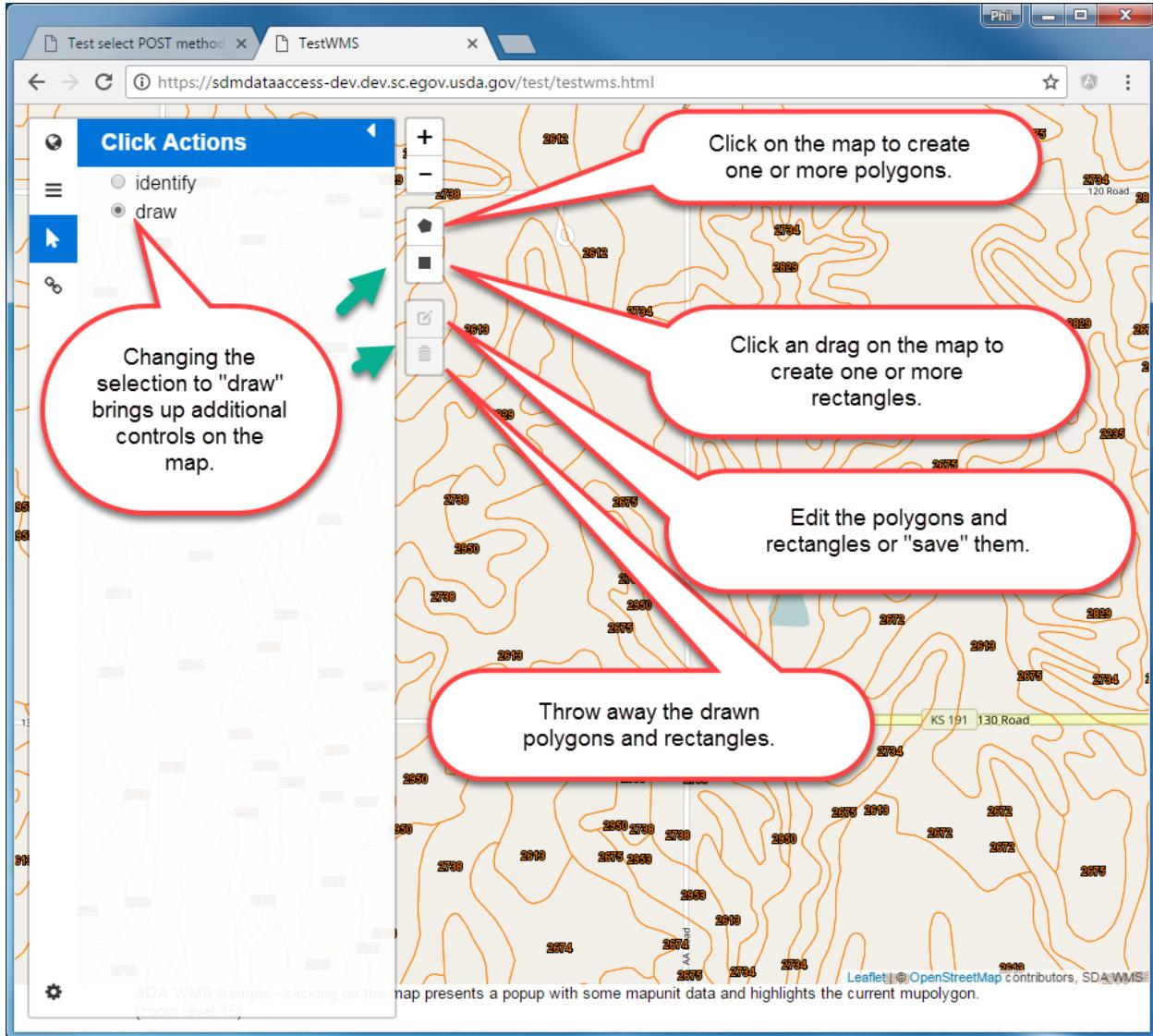
The method used to start WSS is still experimental. Should this capability be useful it can likely be improved upon. The other button, “start WSS at location in this tab” replaces the TestWMS page with WSS. If WSS is fully awake this approach is reasonable.

Identify or Draw

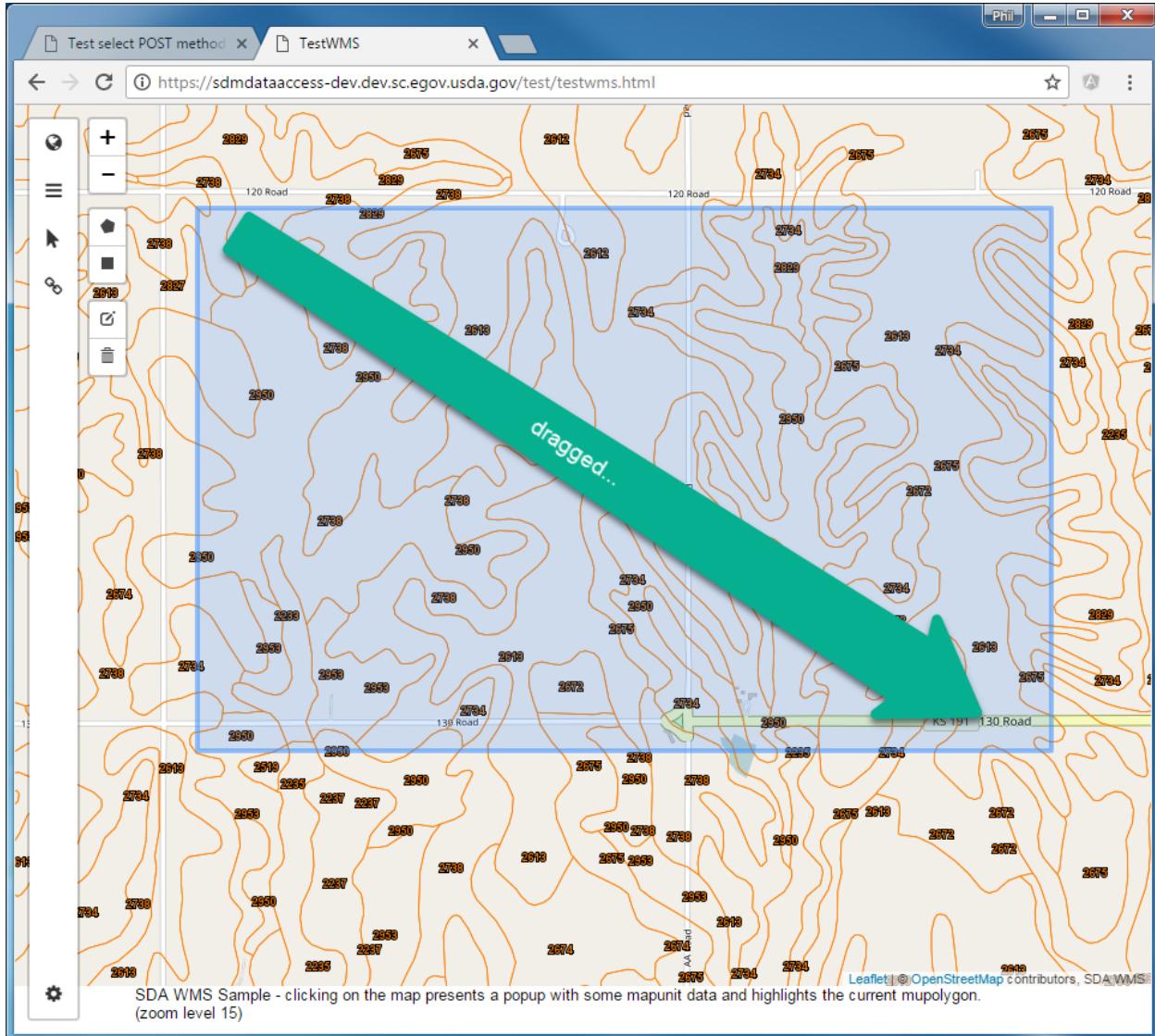
By default TestWMS lets you click on the map and get thumbnail information about the mapunit polygon where you clicked:



In place of this default “Identify” behavior you can turn on a “drawing” capability by selecting that option from the “Identify or Draw” pullout of the sidebar:

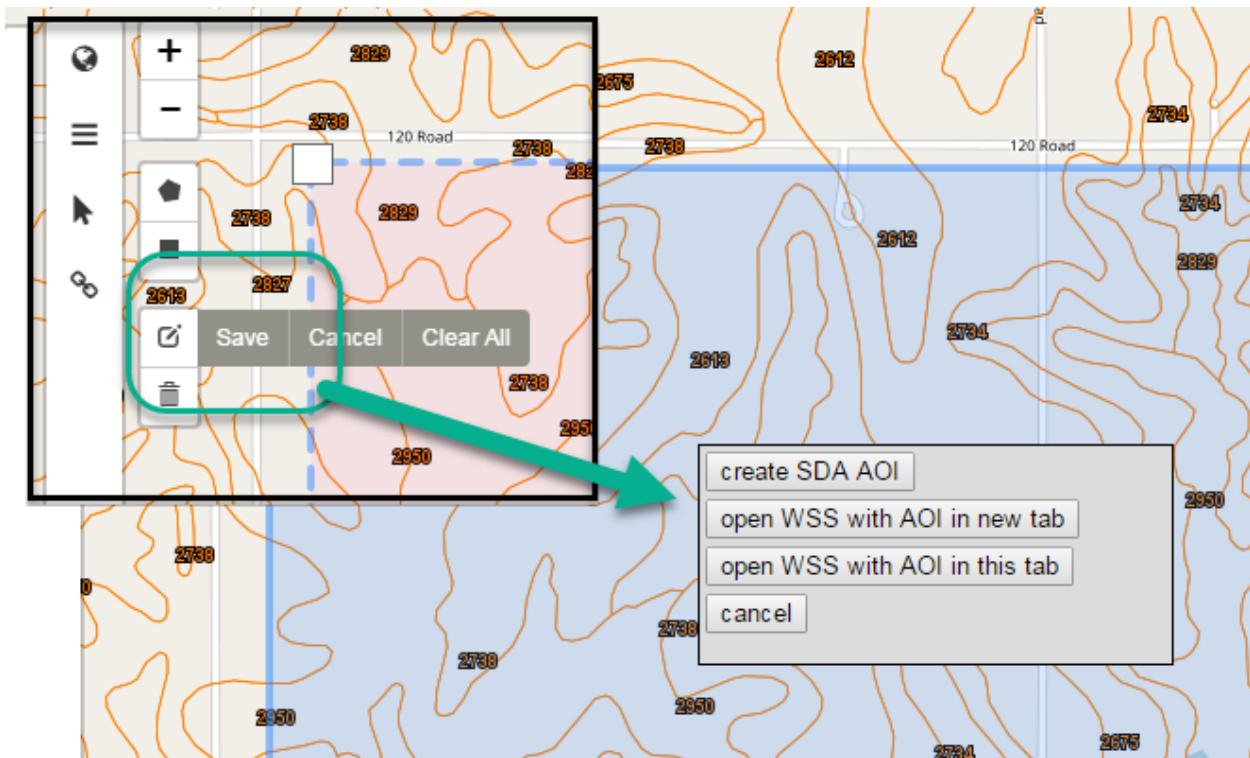


Try clicking on the “rectangle” symbol and using the mouse drag (or a touch drag) draw a rectangle on the map:

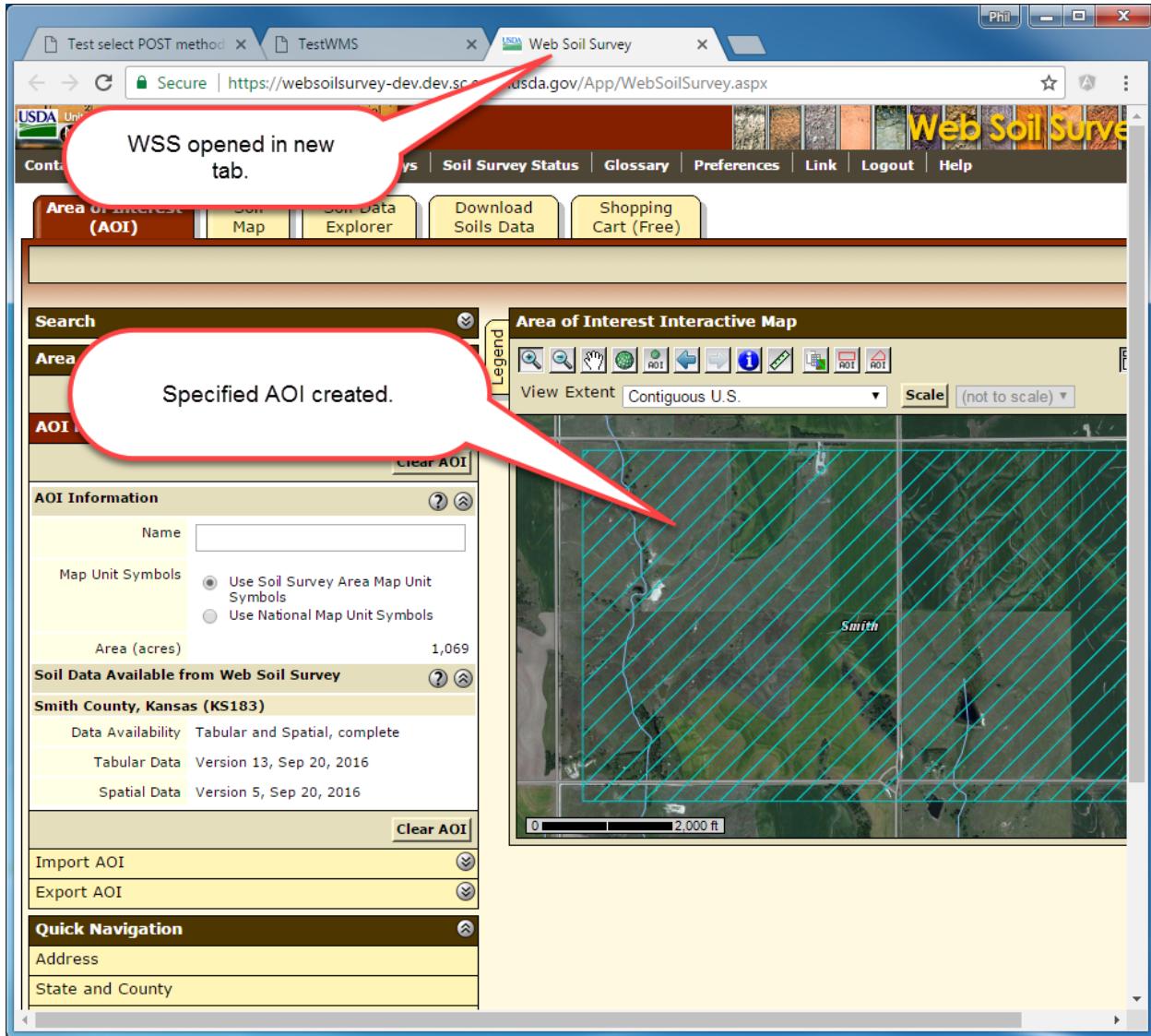


Clicking on the trash can allows you to remove the drawn rectangle (“Clear All”, “Save” is not implemented here). Don’t do so at this point unless you want to play with drawing other rectangles or polygons.

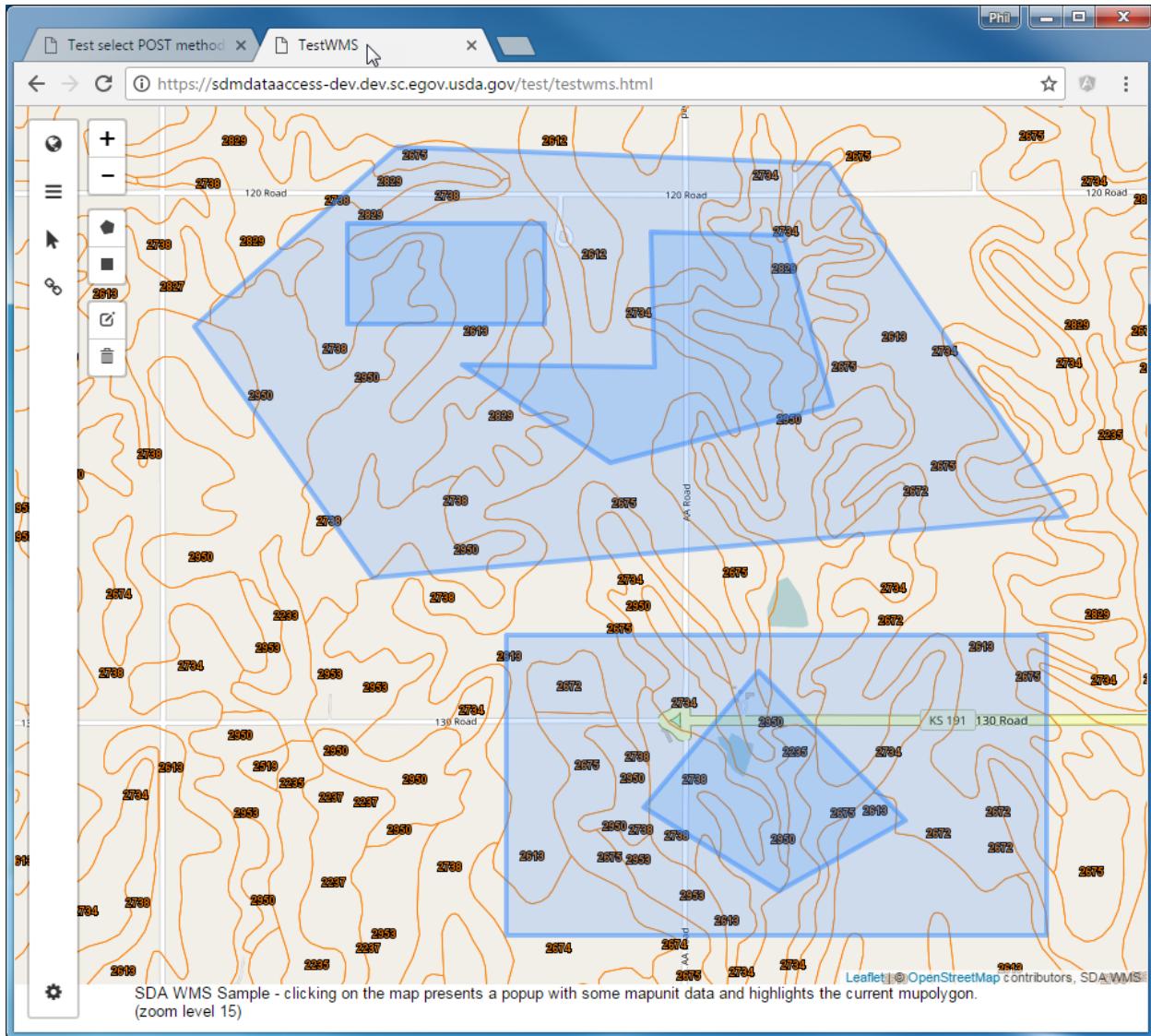
Clicking on the “Edit” button allows you to modify the rectangle(s) and/or polygon(s) that you’ve drawn. The “Save” option also brings up some additional choices:



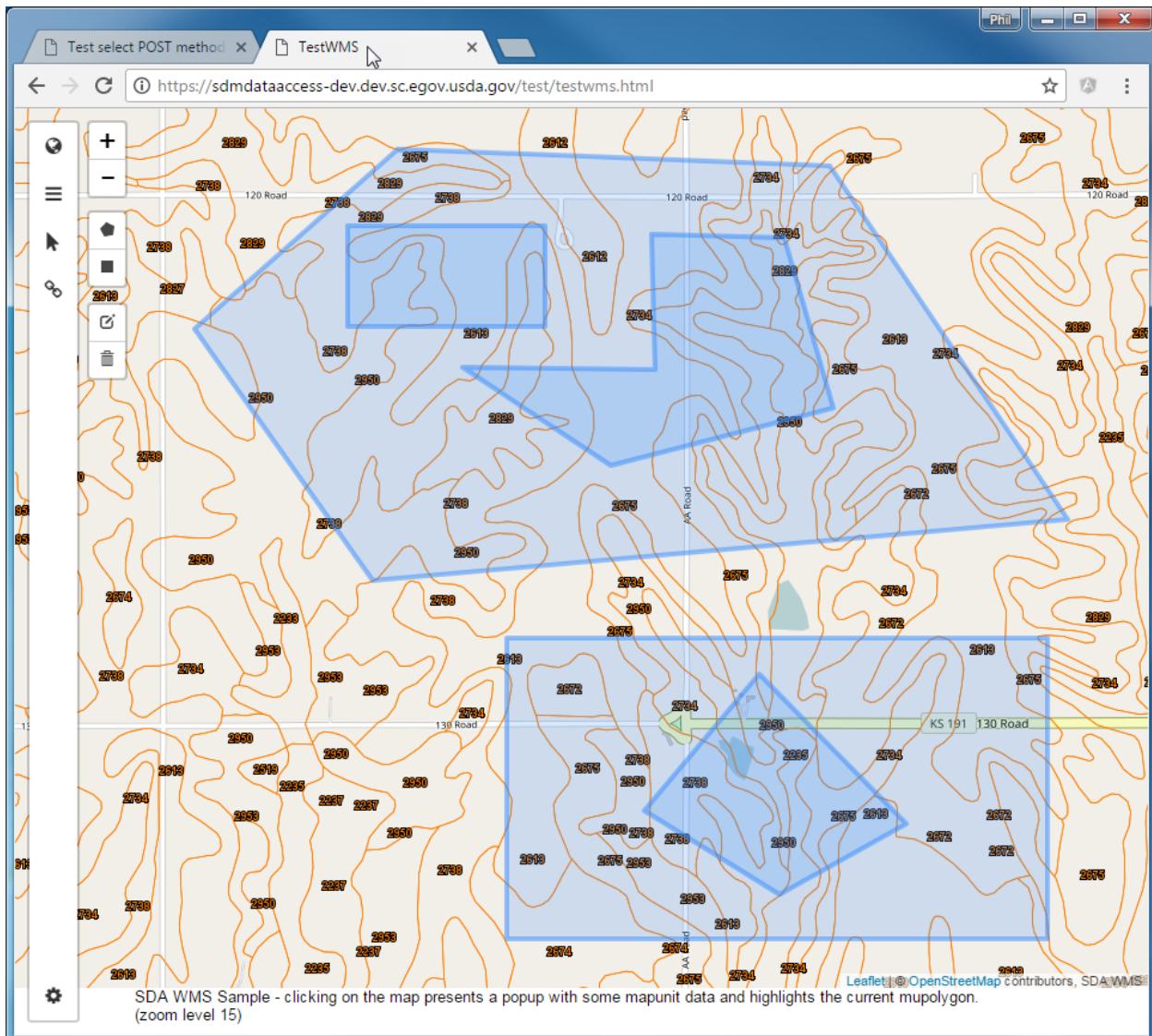
In the case of “create SDA AOI” a new pAOI is created and the map is moved to show the new AOI. Using “open WSS with AOI in new tab” does just what it claims (save for the previous “what could go wrong” notes):



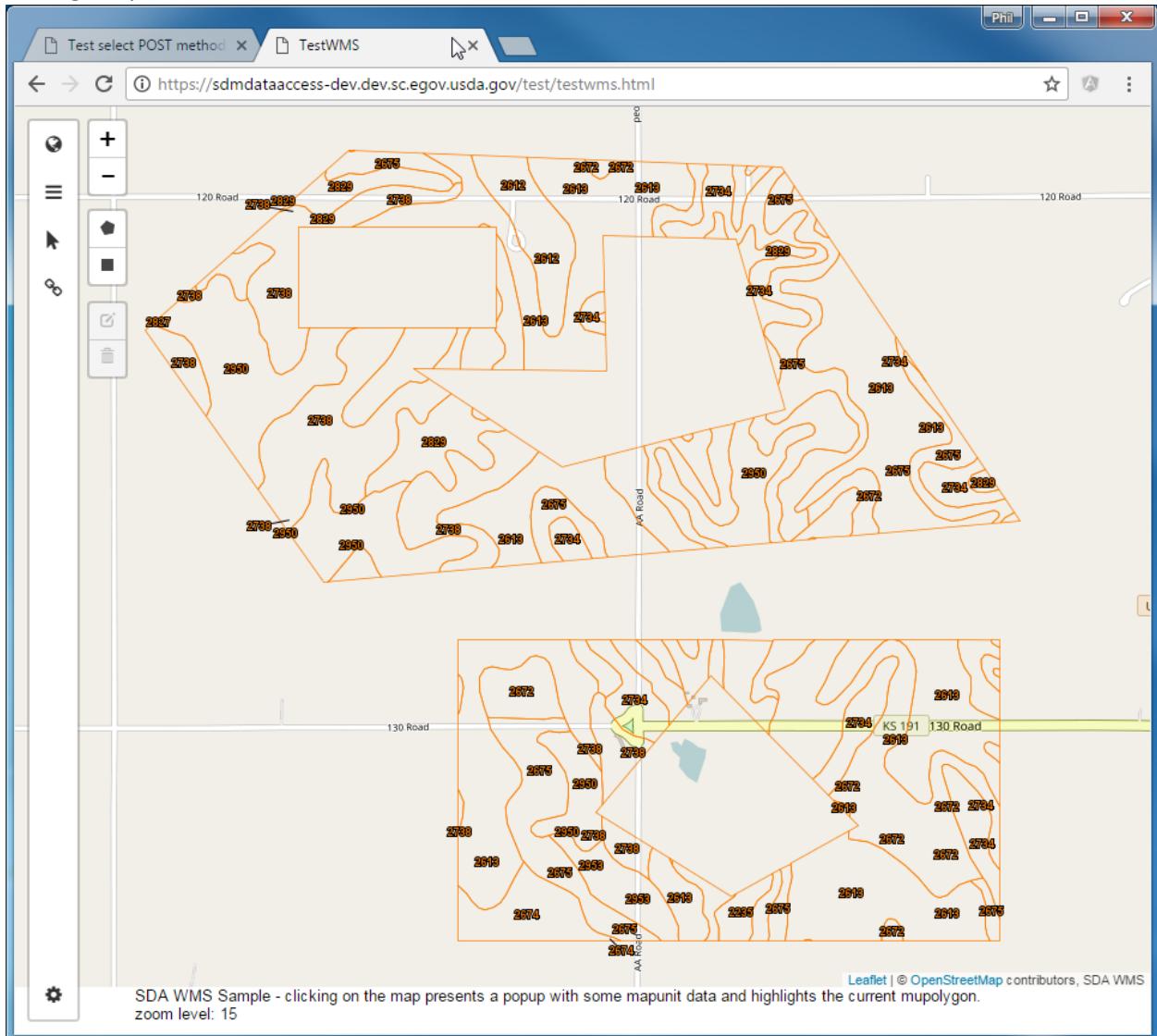
You may also draw multiple polygons and rectangles. Overlapped polygons can yield AOIs with interior voids:



In WSS this yields:



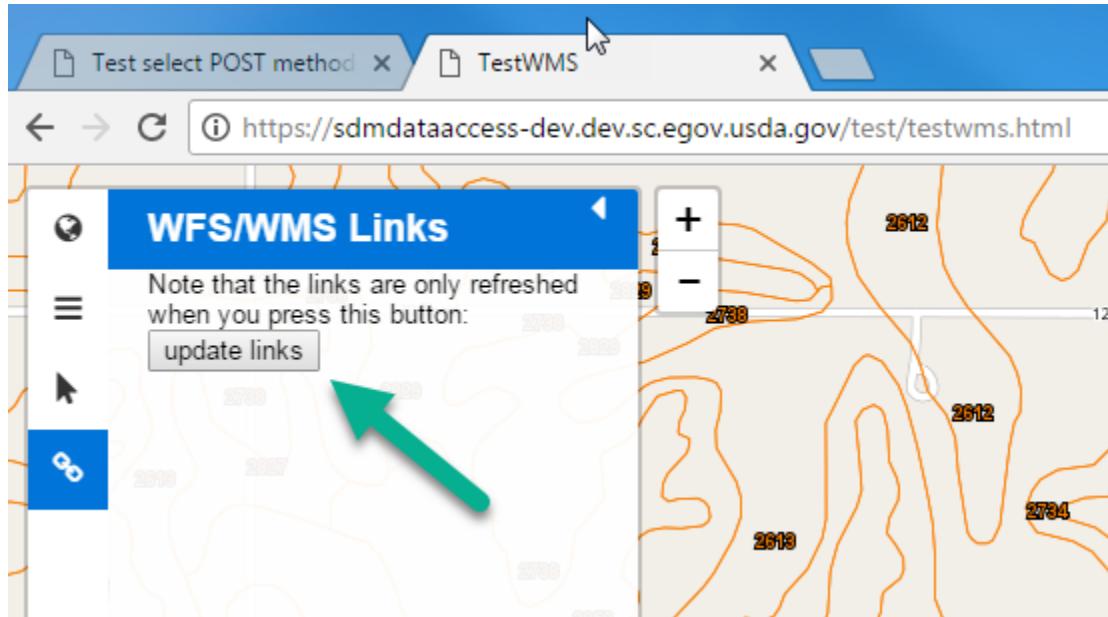
Analogously in SDA,



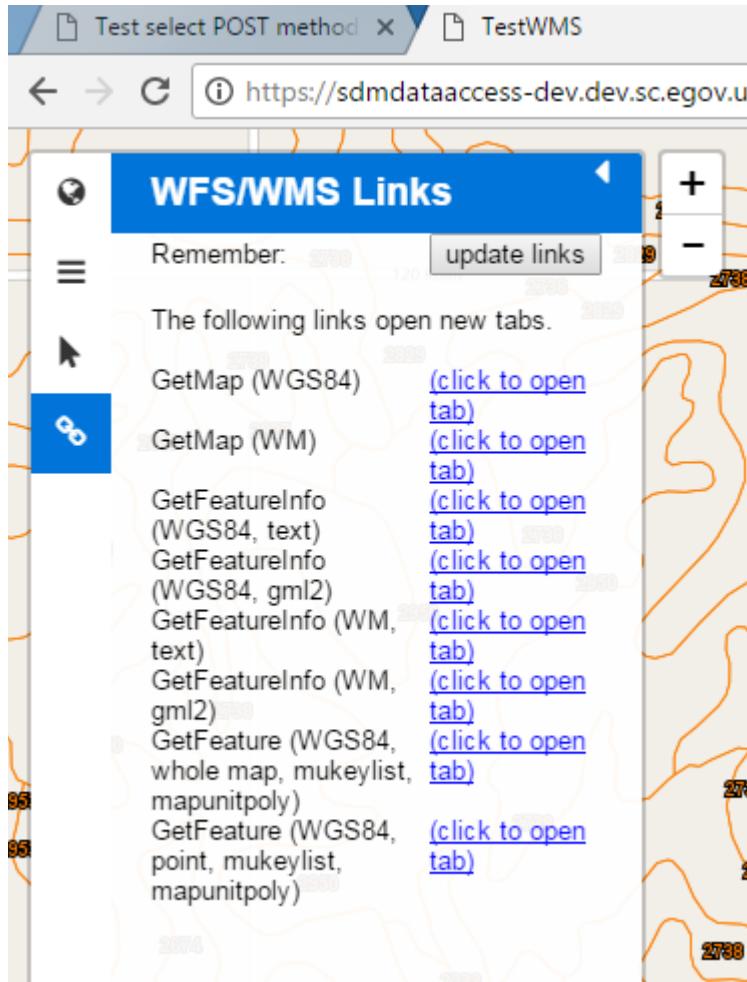
In this point in the evolution of this experimental facility the created AOI, whether in SDA or WSS, is a “non-multipart AOI”: while it may have multiple regions, they are treated as a whole.

WMS and WFS service links

The “WFS/WMS Links” pullout demonstrates additional WFS and WMS SDA service use (the source code of the TestWMS page can also be mined for details of post.rest, WFS and WMS service use in support of the page). Start by opening the slide-out:



The links are not actively maintained while you work on the map, so you need to manually update the links before using them:



Each of these links opens a new Web browser tag. Your currently-selected layers and any AoId, SLD_ID, thematicmapid specifications are used as with the links as appropriate to the service. Try them all.

What's next?

Through June and early July the ability to execute interpretations will be introduced and documented.