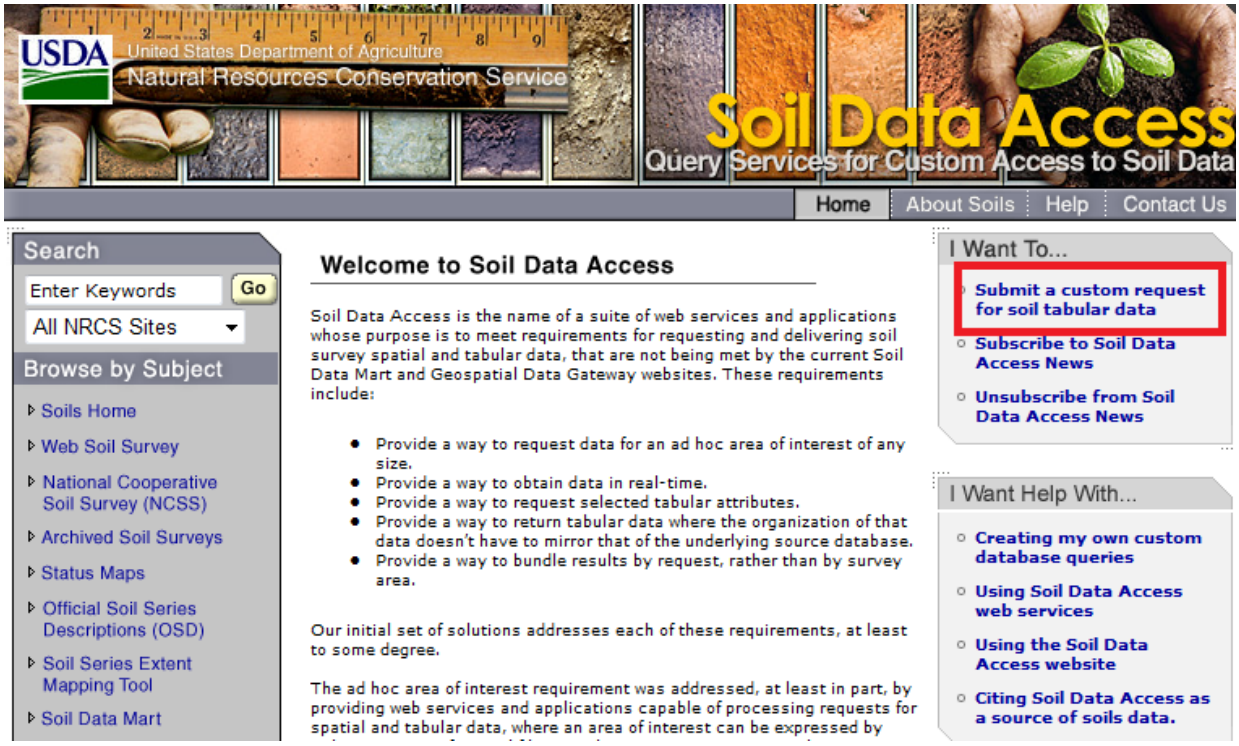
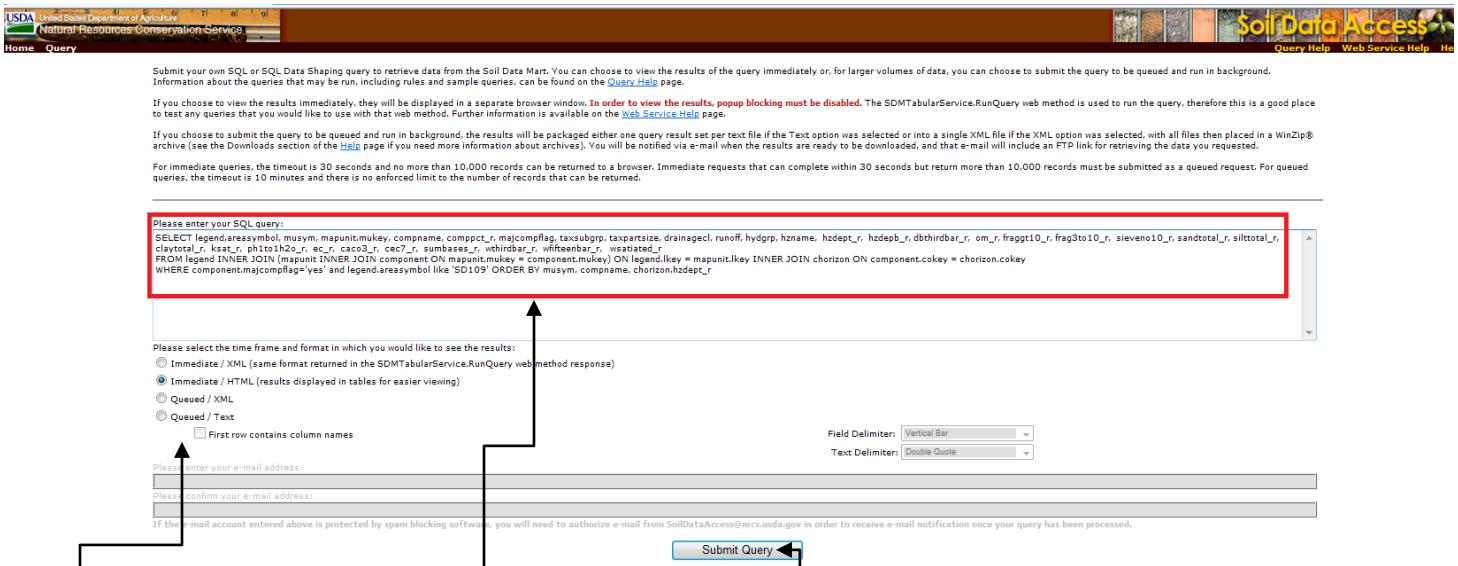
Soil Data Access (SDA)

Soil Data Access is the name of a suite of Web services and applications designed for the intermediate to advanced geographic data user. It allows the user the use Structured Query Language (SQL) to retrieve tailored Soil Data from the Official Soil Survey database. Complete instructions on the services available are at the SDA Web site. An example on how to query for tailored attribute data is shown below:

1. Go to Soil Data Access http://sdmdataaccess.nrcs.usda.gov/Default.aspx
2. Choose: Submit a custom request for soil tabular data





3. Copy and paste query into Query Window
4. Set radio button to the desired format
5. Click: Submit Query

Example: A query for Component Table Information [constrained by area symbol]

SELECT legend.areasymbol, musym, mapunit.mukey, compname, comppct_r, majcompflag, taxsubgrp, taxpartsize, drainagecl, runoff, hydgrp FROM legend INNER JOIN (mapunit INNER JOIN component ON mapunit.mukey = component.mukey) ON legend.lkey = mapunit.lkey WHERE component.majcompflag='yes' and legend.areasymbol like 'SD109' ORDER BY musym, compname

Note: There is an issue with forward vs backward quotes, ('SD109' vs ‘SD109’) so font format is important.

areasymbol	musym	mukey	compname	comppct_r	majcompflag	taxsubgrp	taxpartsize	drainagecl	runoff	hydgrp
SD109	AaA	417800	Aastad	85	Yes	Pachic Udic Haploborolls	fine-loamy	Moderately well drained		B
SD109	Ac	417801	Antler	50	Yes	Aeric Calciaquolls	fine-loamy	Somewhat poorly drained		C
SD109	Ac	417801	Colvin	30	Yes	Typic Calciaquolls	fine-silty	Poorly drained		C/D
SD109	At	417802	Antler	45	Yes	Aeric Calciaquolls	fine-loamy	Somewhat poorly drained		C
SD109	At	417802	Tonka	25	Yes	Argiaquic Argialbolls	fine	Poorly drained		C/D
SD109	AvA	417803	Antler	45	Yes	Aeric Calciaquolls	fine-loamy	Somewhat poorly drained		C
SD109	AvA	417803	Hamerly	40	Yes	Aeric Calciaquolls	fine-loamy	Somewhat poorly drained		C
SD109	BbE	417804	Barnes	50	Yes	Udic Haploborolls	fine-loamy	Well drained		B
SD109	BbE	417804	Buse	25	Yes	Udic Calciborolls	fine-loamy	Well drained		B
SD109	Be	417805	Bearden	85	Yes	Aeric Calciaquolls	fine-silty	Somewhat poorly drained		C
SD109	Bo	417806	Borup	85	Yes	Typic Calciaquolls	coarse-silty	Poorly drained		B/D
SD109	BpF	417807	Buse	50	Yes	Udic Calciborolls	fine-loamy	Well drained		B
SD109	BpF	417807	Forman	20	Yes	Udic Argiborolls	fine-loamy	Well drained		B
SD109	Co	417808	Colvin	90	Yes	Typic Calciaquolls	fine-silty	Poorly drained		C/D
SD109	DcA	417809	Dickey	80	Yes	Udorthentic Haploborolls	sandy over loamy	Well drained		B
SD109	DcB	417810	Dickey	80	Yes	Udorthentic Haploborolls	sandy over loamy	Well drained		B
SD109	Dm	417811	Divide	55	Yes	Aeric Calciaquolls	fine-loamy over sandy or sandy-skeletal	Somewhat poorly drained		B
SD109	Dm	417811	Marysland	40	Yes	Typic Calciaquolls	fine-loamy over sandy or sandy-skeletal	Poorly drained		B/D
SD109	Do	417812	Doran	80	Yes	Aquertic Argiborolls	fine	Moderately well drained		C
SD109	Dv	417813	Castlewood	85	Yes	Cumulic Vertic Endoaquolls	fine	Poorly drained		C/D
SD109	EcA	417814	Eckman	85	Yes	Udic Haploborolls	coarse-silty	Well drained		B
SD109	EcB	417815	Eckman	80	Yes	Udic Haploborolls	coarse-silty	Well drained		B
SD109	EeC	417816	Eckman	65	Yes	Udic Haploborolls	coarse-silty	Well drained		B
SD109	EeC	417816	Zell	25	Yes	Udic Calciborolls	coarse-silty	Well drained		B
SD109	Eh	417817	Embden	70	Yes	Pachic Udic Haploborolls	coarse-loamy	Moderately well drained		B

SoilDataAccess Sample Queries

SoilDataAccess Web site: http://sdmdataaccess.nrcs.usda.gov/Default.aspx
Query Page: http://sdmdataaccess.nrcs.usda.gov/Query.aspx

Notes:
In the SQL Query:
The word LIKE is to pull one item i.e. compname LIKE 'Fordville'
The Word IN is used to pull a list. The list is in Parenthesis i.e. musym IN ('AvA', 'Eh', 'FdA')
% is a wildcard key 'SD%' as a constraint will retrieve requested data for the whole state
Copying and Pasting queries into soil data access window works better than trying to type in the query.

Soil Survey Area symbols, Area names, Area acres, mapping scale [South Dakota]:
SELECT legend.areasymbol, legend.areaname, legend.areaacres, projectscale FROM legend
WHERE areasymbol like 'SD%'

Horizon Tables information[constrained by Area Symbol and Map Unit Symbol list]:
SELECT legend.areasymbol, musym, mapunit.mukey, compname, comppct_r, majcompflag, hzname, hzdept_r, hzdepb_r, dbthirdbar_r, om_r, fraggt10_r, frag3to10_r, sieveno10_r, sandtotal_r, silttotal_r, claytotal_r, ksat_r, ph1to1h2o_r, ec_r, caco3_r, cec7_r, sumbases_r, awc_r, wthirdbar_r, wfifteenbar_r, wsatiated_r
FROM (legend INNER JOIN (mapunit INNER JOIN component ON mapunit.mukey = component.mukey) ON legend.lkey = mapunit.lkey) INNER JOIN chorizon ON component.cokey = chorizon.cokey
WHERE component.majcompflag='yes' and legend.areasymbol like 'SD109' and musym IN ('AvA', 'Eh', 'FdA')
ORDER BY musym, compname, chorizon.hzdept_r

Component and Horizon Tables Information [constrained by Area Symbol] (Aggregated by horizon)]:
SELECT legend.areasymbol, musym, mapunit.mukey, compname, comppct_r, majcompflag, taxsubgrp, taxpartsize, drainagecl, runoff, hydgrp, hzname, hzdept_r, hzdepb_r, dbthirdbar_r, om_r, fraggt10_r, frag3to10_r, sieveno10_r, sandtotal_r, silttotal_r, claytotal_r, ksat_r, ph1to1h2o_r, ec_r, caco3_r, cec7_r, sumbases_r, wthirdbar_r, wfifteenbar_r, wsatiated_r
FROM legend INNER JOIN (mapunit INNER JOIN component ON mapunit.mukey = component.mukey) ON legend.lkey = mapunit.lkey INNER JOIN chorizon ON component.cokey = chorizon.cokey
WHERE component.majcompflag='yes' and legend.areasymbol like 'SD109' ORDER BY musym, compname, chorizon.hzdept_r

Component Table Information only [Constrained by area symbol]:
SELECT legend.areasymbol, musym, mapunit.mukey, compname, comppct_r, majcompflag, taxsubgrp, taxpartsize, drainagecl, runoff, hydgrp FROM legend INNER JOIN (mapunit INNER JOIN component ON mapunit.mukey = component.mukey) ON legend.lkey = mapunit.lkey WHERE component.majcompflag='yes' and legend.areasymbol like 'SD109' ORDER BY musym, compname

Mapunit Acres sorted most to least [Constrained by Area Symbol]:
SELECT legend.areasymbol, musym, muname, mapunit.mukey, muacres FROM legend INNER JOIN mapunit ON legend.lkey = mapunit.lkey WHERE legend.areasymbol like 'SD109' ORDER by muacres DESC