

Information on the National Soil Carbon Network Database Datatypes

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This document gives detailed information the variables used by the database.

Each variable is associated with one of the six worksheets in the submissions template: site, profile, layer, fraction, disturbance, and metadata. Sites will typically be comprised of multiple soil profiles, each of which is comprised of individually collected and reported horizons or depth increments (called samples or layers). Data for the non-fractionated whole soils is a layer variable such as bd_tot or c_tot. Data for their constituent fractions (e.g., density or size) is a fraction variable such as bd_tot_fract or c_tot_fract. Each site, profile, layer, and fraction has a unique name.

Some text variables have restricted vocabularies and are denoted by 'has CV' in the Units column. Only the enumerated values can be used. For these variables, the vocabulary is either enumerated below or, for larger vocabularies, a URL to a web site that can be used to search for the acceptable attributes.

The 'Rowtext' column provides the database name used for each variable. User-facing names are in the 'Name' column.

[Questions can be sent to the NSCN Network Coordinator.](#)

[This is a beta release of the NSCN Database products. Several features of the database, data submissions guidelines and quality checks are still under development. Please send any feedback to nscn-support@george.lbl.gov.](#)

Layer Metadata Variables					
Rowtext	Name	Units	Type	Description	Parameters
hzn_bound	Horizon Is Bounded Flag		text	Horizon Is Bounded Flag Is the bottom sampled depth of the profile bound? Enter "yes" if the last sampled depth in the profile is known to include the extent of the designated horizon, otherwise leave blank. This flag is used to calculate the total carbon content for the bottom	;;;
hzn_desgn	Horizon Designation		text	Horizon Designation Follow conventions of the USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; pp. 2-2 through 2-4). Note that datasets originally using another convention will be modified for this column. If a different convention was used it can be entered in Horizon Designation Other.	layer_top; layer_bot; layer_sequence; hzn_major;
hzn_desgn_other	Horizon Designation Other		text	Horizon Designation Other Horizon designation following a convention other than the NRCS convention. Please document the method in the associated Horizon Designation Different Method.	layer_top_other; layer_bot_other; layer_sequence; hzn_desgn_old;
hzn_desgn_other_note	Horizon Designation Note		text	Horizon Designation Note Provide a reference for the horizon designations employed if they differ from NRCS standards in the USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002).	;;;
hzn_type	Horizon Type		text	Horizon Type Used to distinguish between mineral and organic samples for lumping and calculations. Autogenerated from Horizon Designation.	;;;
layer_note	Soil Layer Notes		text	Soil Layer Notes A description of the sampled layer. For example, a full NRCS horizon description.	layer_number; ; hzn_sequence; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
13c	13C	‰	real	13C Per mille signature of 13C relative to Pee Dee Belemnite.	nrns_prep_code _unknown; ; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
14c	14C	%	real	14C Per mille signature of 14C relative to NBS Oxalic Acid standard.	;;;
15n	15N	%	real	15N Per mille signature of 15N relative to air (international standard).	;;;
bd_method	Bulk Density Method		text	Bulk Density Method Please reference or describe the methods used to determine bulk densities, whether these correspond to Sample Bulk Density, Total Bulk Density, Whole Soil Bulk Density, or Bulk Density Other.	;;;
bd_other	Bulk Density Other	g cm-3	real	Bulk Density Other Grams of oven-dried soil per cubic centimeter. Please document the method used in the associated Bulk Density Method including the soil particle fraction used.	nrcs_prep_code_bd; ; ;
bd_samp	Sample Bulk Density	g cm-3	real	Sample Bulk Density Grams of oven-dried soil per cubic centimeter, with soil particles greater than 2 mm and roots greater than 1 cm diameter removed. Calculated by multiplying the air-dry bulk density by (1 – fraction moisture in air-dry sample).	nrcs_prep_code_bd; ; ;
bd_tot	Total Bulk Density	g cm-3	real	Total Bulk Density Grams of oven-dried soil per cubic centimeter, with soil particles greater than 2 mm and roots greater than 1 cm diameter included. Calculated by multiplying the air-dry bulk density by (1 – fraction moisture in air-dry sample).	nrcs_prep_code_unknown; ; ;
bd_whole	Whole Soil Bulk Density	g cm-3	real	Whole Soil Bulk Density Grams of oven-dried soil per cubic centimeter. The difference between this and Total Bulk Density is that the coarse fragment is accounted for. Please document the method in the associated Bulk Density Method.	;;;
burn_ev	Evidence of Burning		text	Evidence of Burning Descriptive information indicating evidence of burning within the layer.	nrcs_prep_code_unknown; ; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
c_method	Carbon Analysis Method		text	Carbon Analysis Method Provide reference or describe the sample preparation and analysis methods used for determinations of carbon concentrations, whether Total Carbon, organic C, or Loss on Ignition.	;;;
c_tot	Total Carbon	%	real	Total Carbon Percent by weight of carbon in an oven-dried soil sample with material >2 mm or 1 cm diameter removed. Calculated by multiplying air-dry determinations of percent carbon by the reciprocal of (1 - fraction moisture in air-dry sample). Please document the method in the associated Carbon Analysis Method. Note that this is the same as "Total Carbon" in the NRCS database.	nrcs_prep_code_carb; ; ;
caco3	CaCO3	%	real	CaCO3 Inorganic carbon concentration as measured or estimated by the contributor. Please document the method in the associated Processed Site Organic Carbon Content Method.	nrcs_prep_code_ph; ; ;
ccon_layer_method	Processed Layer Organic Carbon Content Method		text	Processed Layer Organic Carbon Content Method Published or other reference to algorithm used to compute Processed Layer Organic Carbon Content.	;;;
ccon_layer_proc	Processed Layer Organic Carbon Content	g cm-2	real	Processed Layer Organic Carbon Content Organic carbon content calculation for an individual sample as estimated by the contributor. Please document the method in the associated Processed Layer Organic Carbon Content Error Estimate and Method.	ccon_samp_scount; ; ccon_samp_type; ; ccon_samp_sigma;
clay_tot_psa	Percent Clay	%	real	Percent Clay Percent by weight of soil particles less than 0.002 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code_rock; ; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
color	Moist Munsell Color		text	Moist Munsell Color Color of moist soil based on the Munsell soil color chart.	nrcs_prep_code _unknown; ; ; ;
GWC	Gravimetric Water Content	%	real	Gravimetric Water Content Gravimetric water content of the sampled layer.	nrcs_prep_code _unknown; ; ; ;
layer_cryo	Layer Cryoturbated Flag		text	Layer Cryoturbated Flag Indicates that there is evidence of cryoturbation in the layer.	nrcs_prep_code _unknown; ; ; ;
loi	Loss on Ignition	%	real	Loss on Ignition Percent by weight of the organic content of the <2mm fraction is the organic material lost after ignition. It is reported on a <2 mm base. Please document the method in the associated Carbon Analysis Method. Note: this is (100 - min_lt2) for NRCS data.	nrcs_prep_code _org; ; ; ;
n_tot	Total Nitrogen	%	real	Total Nitrogen Percent by weight of nitrogen (organic and inorganic) in an oven-dried soil sample with material >2 mm or 1 cm diameter removed. Calculated by multiplying air-dry determinations of percent nitrogen by the reciprocal of (1 - fraction moisture in air-dry sample).	nrcs_prep_code _carb; ; ; ;
no_soc	No soil carbon computation	g cm-2	real	No soil carbon computation Unable to compute Soil Organic Carbon (soc).	; ; ; ;
oc	Organic Carbon	%	real	Organic Carbon Percent by weight of carbon in an oven-dried soil sample with material >2 mm or 1 cm diameter removed and after acidification with HCl, calculated by multiplying air-dry determinations of percent carbon by the reciprocal of (1 - fraction moisture in air-dry sample) OR organic carbon as estimated by Walkley-Black Modified Acid-Dichromate (e.g. 'Organic Carbon' in the NRCS database). Please document the method in the associated Carbon Analysis Methods.	nrcs_prep_code _carb; ; ; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
ph_cacl	Soil pH CaCl2		text	Soil pH CaCl2 1:2 soil-CaCl2 is the pH of a sample measured in 0.01M CaCl2 at a 1:2 soil:solution ratio.	nrcs_prep_code_ph; ; ;
ph_h2o	Soil pH 1:1		real	Soil pH 1:1 1:1 distilled water and soil paste. If pH was done by a different method, then enter it into one of the other soil pH fields.	nrcs_prep_code_ph; ; ;
ph_method	pH Method		text	pH Method Provide reference or describe the sample preparation and analysis methods used for determinations of pH if not 1:1 soil and distilled water paste or in CaCl2.	; ; ;
ph_other	Soil pH Other		real	Soil pH Other pH measurements other than 1:1 soil and distilled water paste or in CaCl2. Please document the method in the associated pH Method.	nrcs_prep_code_unknown; ; ;
root_quant_size	Root Quantity and Size		text	Root Quantity and Size Use USDA NRCS conventions from the USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; p.2-56): Record the average quantity from 3 to 5 representative unit areas. Size classes of roots being considered: very fine, < 1mm; fine, 1 – 2mm diameter.	nrcs_prep_code_unknown; ; ;
root_weight	Root Weights	g	text	Root Weights Dry weight of roots ≤2 mm in diameter in the sample.	nrcs_prep_code_unknown; ; ;
sand_tot_psa	Percent Sand	%	real	Percent Sand Percent by weight of soil particles greater than 0.05 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code_rock; ; ;
silt_tot_psa	Percent Silt	%	real	Percent Silt Percent by weight of soil particles in the size range from 0.002 to 0.050 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code_rock; ; ;

Layer Variables					
Rowtext	Name	Units	Type	Description	Parameters
soc	Soil carbon	g cm-2	real	Soil carbon Soil carbon weighted by layer bulk density.	;;;;
soc_AK	Soil carbon computed per Kris Johnson	g cm-2	real	Soil carbon computed per Kris Johnson Soil carbon weighted by layer bulk density per equations from Kris Johnson.	;;;;
textureClass	Texture Class		text	Texture Class Soil texture classification. If no information is provided, this will be automatically generated from %sand, %silt, %clay data (coarse = ≥50% sand; fine = <50% sand).	nrcs_prep_code _unknown; ; ; ;
Thermal_K	Thermal K	w m-2 k-1	real	Thermal K Layer Thermal K.	nrcs_prep_code _unknown; ; ; ;
VWC	Volumetric Water Content	%	real	Volumetric Water Content Volumetric water content of the sampled layer.	nrcs_prep_code _unknown; ; ; ;
water_content_method	Water Content Method		text	Water Content Method Provide a reference on the methods used for determining sample water content.	;;;;
wpg2	Coarse Fragments	%	real	Coarse Fragments The weight fraction of particles with >2 mm diameter is reported as a gravimetric percent on a whole soil base. Please include metadata in the Coarse Fragments Method column (e.g. estimate or quantitative).	nrcs_prep_code _rock; ; ; ;
wpg2_method	Coarse Fragments Method		text	Coarse Fragments Method Provide a reference for or describe the methods used to determine coarse fragment content.	;;;;

Profile Variables					
Rowtext	Name	Units	Type	Description	Parameters
add_taxon_flag	Complete Taxonomy Flag		text	Complete Taxonomy Flag Indicate that whether there is more taxonomic information for this profile by entering “yes”, otherwise leave the field blank.	;;;;
ccon_prof_method	Processed Profile Organic Carbon Content Method		text	Processed Profile Organic Carbon Content Method Published or other reference to algorithm used to compute Processed Profile Organic Carbon Content.	;;;;

Profile Variables					
Rowtext	Name	Units	Type	Description	Parameters
ccon_prof_proc	Processed Profile Organic Carbon Content	g cm-2	real	Processed Profile Organic Carbon Content Organic carbon content calculation for an individual profile as estimated by the contributor based on special procedures for handling missing data (e.g. %C v. bulk density relations). Most ideal are estimates to a specific depth or horizon in the profile. Please document the method in the associated Processed Profile Organic Carbon Content Error Estimate and Method.	ccon_prof_scount; ccon_prof_depth; ; ccon_prof_type; ccon_prof_sigma;
collection_method	Soil Sample Collection Method		text	Soil Sample Collection Method Please document how the soil samples were taken including whether the samples were taken from a core, the face of a pit, or some other method.	;;;
layer_method	Layer Sampling Method		text	Layer Sampling Method Description of how the soils were sampled including whether from a soil core or face pit; sampled by depth or horizon, and quantitative pit or other method.	;;;
observation_date	Observation Date		date	Observation Date The date at which the profile was taken at the site.	;;;
prof_cryo	Profile Cryoturbated Flag		text	Profile Cryoturbated Flag The profile shows a significant degree of cryoturbation.	;;;
profile_blob	Blob of profile descriptive text; saved for future use (eg NRCS)		text	Blob of profile descriptive text; saved for future use (eg NRCS) Profile text blobs stored for subsequent parsing (NRCS).	;;;
profile_method	Profile Sampling Method		text	Profile Sampling Method Sample method used to obtain the profile. (core/face) (pit/horizon) (one/multiple) or other.	;;;
profile_note	Profile Notes		text	Profile Notes Enter information that helps describe the profile, such as the NRCS description of the sampled extent of the profile.	;;;
sampler_names	Sampler Names		text	Sampler Names The names of the persons who described and sampled the profile.	;;;

Profile Variables					
Rowtext	Name	Units	Type	Description	Parameters
soil_series	Soil Series		text	Soil Series The NRCS soil series of the profile.	;;;
soil_taxon	Soil Taxonomy		text	Soil Taxonomy The taxonomic classification of the profile following NRCS convention.	;;;
surface_veg	Surface Vegetation		text	Surface Vegetation Describe the dominant vegetation at the exact location of the profile.	;;;
thaw_depth_profile	Thaw Depth of the Profile	cm	text	Thaw Depth of the Profile The depth to the frozen surface of the profile. For Alaska sites, this applies only if sampled after August 15 and should be left blank if sampled before.	;;;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
2d_position	2D Position		text	2D Position 2-dimensional position of the site on the Landform on which it is located. See USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; pp. 3-38 through 3-41). This information supplements Landscape and Landform to describe the geographic setting of the site.	;;;
add_note	Additional Data Note		text	Additional Data Note Add links or publication references for any additional belowground data available for the site (soil chemistry, microbial measurements).	;;;
aspect_cl	Site Aspect Class		text	Site Aspect Class The cardinal direction that the slope faces at a site. Use this field if only if you do not provide the azimuth of the Site Aspect in compass degrees.	;;;
aspect_deg	Site Aspect	degree	real	Site Aspect The numerical observation of aspect at the site. The compass bearing (corrected for declination) that a slope faces, looking downslope. If the site has no slope leave blank.	;;;
bedrock	Bedrock Type		text	Bedrock Type Bedrock type (NRCS).	; bedrock_depth; ;;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
bedrock_depth	Depth to Bedrock	cm	real	Depth to Bedrock The observed depth to the top of the bedrock layer.	;;;
ccon_site_method	Processed Site Organic Carbon Content Method		text	Processed Site Organic Carbon Content Method Published or other reference to algorithm used to compute Processed Site Organic Carbon Content.	;;;
ccon_site_proc	Processed Site Organic Carbon Content	g cm-2	real	Processed Site Organic Carbon Content Organic carbon content calculation for an individual site as estimated by the contributor based on special procedures for handling missing data (e.g. %C v. bulk density relations). Most ideal are estimates to a specific depth or horizon. Please document the method in the associated Processed Site Organic Carbon Content Error Estimate and Method.	ccon_site_pcount; ; ccon_site_type; ccon_site_sigma ;
cflux_note	C Flux Notes		text	C Flux Notes Provide references or links to carbon flux measurements that have been conducted at the site.	;;;
climate_note	Climate Notes		text	Climate Notes Provide references or links to climate data for the site.	;;;
climate_station	Climate Station		text	Climate Station Name of nearest climate station.	;;;
confidentiality_status	Confidentiality Status		text	Confidentiality Status Are the data to be considered confidential? If yes, then what level of confidentiality is required? 1, 10, 100 km refers to the fuzziness to be applied to the geocoordinates.	;;;
county	County		text	County	mlra_name; ssa_name; county_code; mlra_code; ssa_code
depth_water	Depth to Water Table	cm	real	Depth to Water Table Measure or estimate the depth from the ground surface to the stabilized contact with free-standing water in an open bore-hole or well at the time of sampling.	;;;
diagnostic_features	Diagnostic Features		text	Diagnostic Features Diagnostic features (NRCS).	;;;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
dist_type	Previous Disturbance Type		text	Previous Disturbance Type Aboveground disturbance that last occurred at the plot. Include a description for any "general" disturbances in the associated Previous Disturbance Note. If there are no known disturbances, please use "undisturbed". If unknown, please leave blank.	; ; dist_year; ;
drainagecl	Drainage Class		text	Drainage Class The drainage class of the soil sampled at the site according to the specific terminology employed in the USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; p. 1-10).	; ; ; ;
earth_cover	Primary Earth Cover		text	Primary Earth Cover Primary earth cover descriptor.	; ; ; ;
eco_domain	Ecoregion Domain		text	Ecoregion Domain USDA Forest Service ECOMAP Version 2.0. Domains are groups of reLatitudeed climates and are differentiated based on precipitation and temperature.	eco_division; eco_province; eco_section; ;
eco_note	Ecoregion Note		text	Ecoregion Note Special information about the site that makes it anomalous from the USDA Omernik ecoregion in which it is located.	; ; ; ;
ecoregion	Omernik Ecoregion		text	Omernik Ecoregion Omernik ecoregion classification.	; ; ; ;
elevation	Elevation	m	real	Elevation The elevation at the site as determined by topo map, GPS, altimeter, etc. Contributed value is assumed accurate within several meters regardless of method used.	; ; ; ;
ffdays	Frost Free Days	days	text	Frost Free Days The expected number of days between the last freezing temperature (0 degrees Celsius) in spring (Jan-Jul) and the first freezing	; ; ; ;
flood_freq	Flooding Frequency		text	Flooding Frequency The annual probability of a flood event expressed as a class.	; ; ; ;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
geo_form	Geologic Formation		text	Geologic Formation The basic lithostratigraphic unit used to describe, delimit, and interpret sedimentary, extrusive igneous, metavolvanic, and metasedimentary or sediment bodies (excludes metamorphic and intrusive igneous rocks), based on lithic characteristics and stratigraphic position. A formation is commonly, but not necessarily, tabular and stratified and is of sufficient extent to be mappable at the earth's surface or traceable in the subsurface at convenient map scales.	;;;;
homogeneity	Stand Homogeneity		text	Stand Homogeneity Indicates the homogeneity of the community using Vegbank classes.	;;;;
landform	Landform		text	Landform The type of Landform on which the site is located. See USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; pp. 3-12 through 3-16). This information can be nested between Landscape and 2D Position to describe the setting of the site.	landform_mod; ; ;
landscape	Landscape		text	Landscape The type of Landscape on which the site occurs, according to USDA-NRCS-NSSC Field Book for Describing and Sampling Soils (Staff 2002; p. 3-11) This information can be arranged in hierarchy above Landform and 2D Position to describe the geographic setting of the site.	;;;;
lat	Latitude	dec. deg	real	Latitude The latitudinal coordinate decimal degrees to five decimal places (WGS84 Latitude/Longitude datum preferred).	datum; location_acc; ; ;
long	Longitude	dec. deg	real	Longitude The longitudinal coordinate decimal degrees to five decimal places (WGS84 Latitude/Longitude datum preferred).	datum; location_acc; ; ;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
map	Mean Annual Precipitation	mm	real	Mean Annual Precipitation The arithmetic average of the total annual (liquid) precipitation , preferably taken over the standard "normal" period, 1961 -1990.	;;;;
mast	Mean Annual Soil Temperature	°c	real	Mean Annual Soil Temperature The mean annual soil temperature, preferably measured at a depth of 50 cm below the soil surface, or at the upper boundary of a root-limiting layer as	;;;;
mat	Mean Annual Temperature	°c	real	Mean Annual Temperature The arithmetic average of the daily maximum and minimum temperatures for a calendar year, preferably taken over the standard "normal" period, 1961	;;;;
organic_depth	Organic Layer Depth		text	Organic Layer Depth The depth from the top of the non-living organic layer to the organic/mineral boundary. This can be calculated by the database engine, but enter any additional mean measurements here.	;;;;
parent	Parent Material		text	Parent Material The geologic or organic precursors to the soil at the site.	;;;;
photo_note	Photo Notes		text	Photo Notes References or links to photos from the site.	;;;;
plot_area	Plot Area	m-2	real	Plot Area If applicable; this is the area of a site that corresponds to one georeferenced point from which two or more profiles were sampled.	;;;;
polar_flag	Polar site		text	Polar site Site is above the Brooks range.	;;;;
pond_freq	Ponding Frequency		text	Ponding Frequency The number of times ponding occurs over a period of time.	;;;;
pre_veg	Pre-existing Vegetation		text	Pre-existing Vegetation If known, note the pre-existing vegetation of the site before disturbance.	;;;;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
primary_feature	Primary Feature		text	Primary Feature See AK_NRCS Geomorphic Descriptions.doc for definitions. Landform, Landform modifier, 2D position, Primary Feature and Secondary Feature can be combined for complete characterization of the site. Add further notes about Landform in the Landform Notes field.	secondary_featu re; ; ;
runoff	Local Runoff Class		text	Local Runoff Class Runoff potential class for the soil, assigned based on local/state/MLRA criteria.	; ; ;
site_alias	Site Aliases		text	Site Aliases Identifies any alternates to or synonyms of the site name.	; ; ;
site_note	Site Notes		text	Site Notes Various notes on and descriptions of the site other than C flux, climate, photo or vegetation. May include local names for physiographic features, which may or may not appear on USGS Topographic Quadrangles.	; ; ;
site_perm	Site Permeability		text	Site Permeability A class rating of the overall ability of air and water to move through the soil profile. The class limits are as defined in the National Soil Survey Handbook.	; ; ;
slope	Slope	%	real	Slope The angle of the ground surface through the site and in the direction that overland water would flow. Make observations facing downslope to avoid errors associated with some brands of clinometers. If the site has no slope leave blank.	; ; ;
soiltemp_note	Soil Temperature Notes		text	Soil Temperature Notes Indicate information about additional soil temperature data available about this site. Please include references and links if possible.	; ; ;
stand_age	Maximum Stand Age	years	int	Maximum Stand Age The maximum stand age at the site in years.	; ; ;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
stand_maturity	Stand Maturity		text	Stand Maturity If the site is forested, how mature was the stand at the time of sampling? The class may be determined by tree cores if available. If stand age is known, then 0-4 years: "young, regenerative", 4-79 years: "even-aged, aggrading, and 80+ years: "mature even-age" or "mature, uneven-age". Choose "not applicable" for grassland or agricultural areas. If unknown, leave blank.	;;;
state	State		text	State	county; country; ; ;
successional_status	Successional Status		text	Successional Status Description of the assumed successional status of the plot. This description is of necessity highly subjective.	;;;
surface_fragments	Surface Fragments		text	Surface Fragments Surface fragments (NRCS).	;;;
thaw_depth_site	Thaw Depth of the Site	cm	real	Thaw Depth of the Site The depth at which permafrost will usually thaw each summer for the site. Usually an average of many measurements over the site. This may or may not be from the thaw depth measured from individual profiles and hence may be different from Thaw Depth of the	;;;
veg_note	Additional Vegetation Data Notes		text	Additional Vegetation Data Notes Provide references or links here if additional site-level vegetation data are available (e.g. species composition, basal area, aboveground biomass).	;;;
vegclass_local	Local Vegetation Classification Code		text	Local Vegetation Classification Code The type of vegetation at the site, described according to the classification scheme commonly used at the site. Indicate the scheme in the Local Vegetation Classification Type. Leave blank if unknown or no local classification applies.	vegclass_local_type; ; ;

Site Variables					
Rowtext	Name	Units	Type	Description	Parameters
vegclass_nat	National Vegetation Classification Standard		text	National Vegetation Classification Standard The type of vegetation at the site, described according to the Federal Geographic Data Committee's classification scheme (http://www.fgdc.gov/standards/projects/FGDC-standards-projects/vegetation/NVCS_V2_FINAL_2008-02.pdf). Classify the site according to the three uppermost formations (Class, Subclass, Formation, Division).	;;;;
water_table_duration	Wet Soil Moisture Duration	days	int	Wet Soil Moisture Duration The cumulative annual duration that a water table can be expected to exist in the soil.	;;;;

Fraction Variables					
Rowtext	Name	Units	Type	Description	Parameters
13c_fract	Fraction 13C	%	real	Fraction 13C Fraction per mille signature of 13C relative to Pee Dee Belemnite.	nrcs_prep_code _unknown; ; ;
14c_fract	Fraction 14C	%	real	Fraction 14C Fraction per mille signature of 14C relative to NBS Oxalic Acid standard.	;;;;
15n_fract	Fraction 15N	%	real	Fraction 15N Fraction per mille signature of 15N relative to air (international standard).	;;;;
bd_method_fract	Fraction Bulk Density Method		text	Fraction Bulk Density Method Please reference or describe the methods used to determine bulk densities, whether these correspond to Sample Bulk Density, Total Bulk Density, Whole Soil Bulk Density, or Bulk Density Other.	;;;;
bd_other_fract	Fraction Bulk Density Other	g cm-3	real	Fraction Bulk Density Other Grams of oven-dried fraction per cubic centimeter of soil. Please document the method used in the associated Bulk Density Method including the soil particle fraction used.	nrcs_prep_code _bd; ; ;

Fraction Variables					
Rowtext	Name	Units	Type	Description	Parameters
bd_samp_fract	Fraction Sample Bulk Density	g cm-3	real	Fraction Sample Bulk Density Grams of oven-dried soil per cubic centimeter of soil, with soil particles greater than 2 mm and roots greater than 1 cm diameter removed.	;;;
bd_whole_fract	Fraction Whole Soil Bulk Density	g cm-3	real	Fraction Whole Soil Bulk Density Grams of oven-dried soil per cubic centimeter of soil. The difference between this and Total Bulk Density is that the coarse fragment is accounted for. Please document the method in the associated Bulk Density Method.	;;;
burn_ev_fract	Fraction Evidence of Burning		text	Fraction Evidence of Burning Descriptive information indicating evidence of burning within the fraction.	nrcs_prep_code _unknown; ; ;
c_method_fract	Fraction Carbon Analysis Method		text	Fraction Carbon Analysis Method Provide reference or describe the sample preparation and analysis methods used for determinations of carbon concentrations, whether Total Carbon, organic C, or Loss on Ignition.	;;;
c_tot_fract	Fraction Total Carbon	%	real	Fraction Total Carbon Percent by weight of carbon in an oven-dried fraction (the laboratory analytical concentration). Please document the method in the associated Carbon Analysis Method.	;;;
ccon_fract_method	Processed Fraction Organic Carbon Content Method		text	Processed Fraction Organic Carbon Content Method Published or other reference to algorithm used to compute Processed Fraction Organic Carbon Content.	;;;
ccon_fract_proc	Processed Fraction Organic Carbon Content	g cm-2	real	Processed Fraction Organic Carbon Content Organic carbon content calculation for an individual sample fraction as estimated by the contributor. Please document the method in the associated Processed Fraction Organic Carbon Content Error Estimate and Method.	ccon_fract_scount; ; ccon_fract_type; ccon_fract_sigma;

Fraction Variables					
Rowtext	Name	Units	Type	Description	Parameters
clay_tot_psa_fract	Fraction Percent Clay	%	real	Fraction Percent Clay Percent by weight of soil particles less than 0.002 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code _rock; ; ;
fract_agent	Fractionation Agent		text	Fractionation Agent The laboratory or analytical device, or chemical compound used to isolate the fraction.	; ; ;
fract_note	Fraction Notes		text	Fraction Notes A description of the fraction.	fract_number; ; hzn_sequence; ;
fract_property	Fraction Property		text	Fraction Property The value of the chemical or physical property defining the fraction as unique from others in its scheme.	; ; ;
fract_scheme	Fractionation Scheme	hascv	text	Fractionation Scheme The scheme used to isolate the fraction.	; ; ;
fract_type	Fraction Type		text	Fraction Type The contributor's name for the specific fraction type.	; ; ;
loi_fract	Fraction Loss on Ignition	%	real	Fraction Loss on Ignition Carbon concentration of the fraction per unit soil mass. For example, when carbon concentration of the fraction is expressed as grams of fraction carbon per gram of whole soil mass.	nrcs_prep_code _org; ; ;
n_tot_fract	Fraction Total Nitrogen	%	real	Fraction Total Nitrogen Percent by weight of nitrogen (organic and inorganic) in an oven-dried soil fraction (the laboratory analytical concentration).	nrcs_prep_code _carb; ; ;
oc_fract	Fraction Organic Carbon	%	real	Fraction Organic Carbon Carbon concentration of the fraction per unit soil carbon mass. For example, when carbon concentration of the fraction is expressed as grams of fraction carbon per gram of bulk soil carbon.	; ; ;

Fraction Variables					
Rowtext	Name	Units	Type	Description	Parameters
sand_tot_psa_fract	Fraction Percent Sand	%	real	Fraction Percent Sand Percent by weight of soil particles greater than 0.05 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code _rock; ; ;
silt_tot_psa_fract	Fraction Percent Silt	%	real	Fraction Percent Silt Percent by weight of soil particles in the size range from 0.002 to 0.050 mm in the sample remaining after removal of particles greater than 2 mm and roots greater than 1 cm diameter. See Gee, G.W. & Bauder, J.W. 1986.	nrcs_prep_code _rock; ; ;
wpg2_fract	Fraction Coarse Fragments	%	real	Fraction Coarse Fragments The weight fraction of particles with >2 mm diameter is reported as a gravimetric percent on a whole soil base. Please include metadata (e.g. estimate or quantitative).	nrcs_prep_code _rock; ; ;
wpg2_method_fract	Fraction Coarse Fragments Method		text	Fraction Coarse Fragments Method Provide a reference for or describe the methods used to determine coarse fragment content.	; ; ; ;

Dataset and Metadata Variables					
Rowtext	Name	Units	Type	Description	Parameters
acknowledgement	Acknowledgement text		text	Acknowledgement text Text to be included in the acknowledgements when publishing papers using data from this site. See also Citation.	;;;
citation	Citation text		text	Citation text Reference (RIS or BibTex) to be used when publishing papers using data from this site. See also Acknowledgement.	citation_usage; ; ;
contact_name	Additional Contact Name		text	Additional Contact Name Additional contact names responsible for the dataset as a whole (not necessarily the person who collected the data).	contact_email; ; ;
curator_name	Curator Name		text	Curator Name Name of the person responsible for the dataset as a whole (not necessarily the person who collected the data).	curator_email; ; ;
dataset_description	Dataset Description		text	Dataset Description Descriptive information on the dataset.	;;;
publish_phase3	Publish Phase 3		text	Publish Phase 3 Contributed data published under the Phase 3 access policy.	;;;
reference	Reference		text	Reference	;;;

Disturbance Variables					
Rowtext	Name	Units	Type	Description	Parameters
dist_clearcut_date	Forest clearcutting date	yyyy-mm-dd or mm/dd/yyyy	date	Forest clearcutting date Applies to forest sites. Please use the associated note to document changes to vegetation.	dist_clearcut_removal_type; dist_clearcut_removal_perc; ; ;
dist_crop_residue_date	Crop residue management other than at harvest date	yyyy-mm-dd or mm/dd/yyyy	date	Crop residue management other than at harvest date Applies to crop, grassland, and savannah sites. Please use the associated note to document changes to vegetation.	dist_crop_residue_type; dist_crop_residue_perc; ; ;
dist_fire_date	Fire other than wildfire date	yyyy-mm-dd or mm/dd/yyyy	date	Fire other than wildfire date Applies to all site types. Please use the associated note to document changes to vegetation. See also DIST_WILDFIRE_DATE.	dist_fire_severity; ; ; ;

Disturbance Variables					
Rowtext	Name	Units	Type	Description	Parameters
dist_fwd_removal_date	Fallen wood removal other than by underburning date	yyyy-mm-dd or mm/dd/yyyy	date	Fallen wood removal other than by underburning date Applies to forest sites. Please use the associated note to document changes to vegetation. See also DIST_UNDERBURN.	dist_fwd_removal_perc; ; ;
dist_general_date	General disturbance date	yyyy-mm-dd or mm/dd/yyyy	date	General disturbance date Applies to all site types. Used only when one of the other disturbance types does not apply. Please give a detailed description in the notes.	; ; ;
dist_grazed_date	Monthly grazing date	yyyy-mm-dd or mm/dd/yyyy	date	Monthly grazing date Applies to crop, grassland and savannah sites. See also dist_ungraze.	dist_graze_spp; dist_graze_stocking; dist_graze_live_weight; dist_graze_onplot; dist_graze_daynight
dist_harvest_date	Crop harvest date	yyyy-mm-dd or mm/dd/yyyy	date	Crop harvest date Applies to crop, grassland, and savannah sites. Please use the associated note to document changes to vegetation.	dist_harvest_residue_type; dist_harvest_residue_perc; dist_harvest_spp; ;
dist_herbicide_date	Application of herbicide date	yyyy-mm-dd or mm/dd/yyyy	date	Application of herbicide date Applies primarily to crop, grassland, and savannah sites.	dist_herbicide_type; dist_herbicide_kgha; ; ;
dist_insect_and_pathogen_date	Insects and pathogens date	yyyy-mm-dd or mm/dd/yyyy	date	Insects and pathogens date Applies to all site types. Used to indicate cause of a change in vegetative cover. Please use the comment to identify the insects and/or pathogens.	; ; ;
dist_irrigation_date	Irrigation date	yyyy-mm-dd or mm/dd/yyyy	date	Irrigation date Applies primarily to crop and grassland sites.	dist_irrigation_water; dist_irrigation_drain_depth; ; ;
dist_liming_date	Application of lime date	yyyy-mm-dd or mm/dd/yyyy	date	Application of lime date Applies primarily to crop and grassland sites.	dist_liming_kgha; ; ; ;

Disturbance Variables					
Rowtext	Name	Units	Type	Description	Parameters
dist_m_fertilization_date	Mineral fertilization date	yyyy-mm-dd or mm/dd/yyyy	date	Mineral fertilization date Applies primarily to crop and grassland sites.	dist_m_fertilization_type; dist_m_fertilization_kgha; dist_m_fertilization_form; dist_m_fertilization_method;
dist_natural_regeneration_date	Natural regeneration date	yyyy-mm-dd or mm/dd/yyyy	date	Natural regeneration date Applies to forest and savannah sites.	dist_natural_regeneration_type; ; ;
dist_o_fertilization_date	Organic fertilization date	yyyy-mm-dd or mm/dd/yyyy	date	Organic fertilization date Applies primarily to crop and grassland sites.	dist_o_fertilization_type; dist_o_fertilization_kgha; dist_o_fertilization_c; dist_o_fertilization_n; dist_o_fertilization_method
dist_pesticide_date	Application of pesticide or insecticide date	yyyy-mm-dd or mm/dd/yyyy	date	Application of pesticide or insecticide date Applies primarily to crop, grassland, or savannah sites.	dist_pesticide_kgha; dist_pesticide_type; ; ;
dist_planting_date	Sowing or planting date	yyyy-mm-dd or mm/dd/yyyy	date	Sowing or planting date Applies primarily to crop, grassland, or savannah sites.	dist_planting_seed; dist_planting_spp; ; ;
dist_storm_date	Severe storm date	yyyy-mm-dd or mm/dd/yyyy	date	Severe storm date Applies to all site types. Indicates the occurrence of a severe storm such as a hurricane.	; ; ; ;
dist_thinning_date	Thinning other than clear cutting date	yyyy-mm-dd or mm/dd/yyyy	date	Thinning other than clear cutting date Applies to forest sites that have had partial harvests (as opposed to clearcut harvests). Please use the associated note to document changes to vegetation.	dist_thinning_removal_type; dist_thinning_percent; dist_thinning_basal_area; ;
dist_tillage_date	Tillage or site preparation date	yyyy-mm-dd or mm/dd/yyyy	date	Tillage or site preparation date Includes scarification and plowing. Applies to crop, grassland, or savannah sites.	dist_tillage_type; dist_tillage_depth; ; ;

Disturbance Variables					
Rowtext	Name	Units	Type	Description	Parameters
dist_underburn_date	Fallen wood removal by underburning date	yyyy-mm-dd or mm/dd/yyyy	date	Fallen wood removal by underburning date Applies to forest sites. Please use the associated note to document changes to vegetation. See also dist_fwd_removal_date.	dist_underburn_perc; ; ;
dist_ungrazed_date	Site was not grazed date	yyyy-mm-dd or mm/dd/yyyy	date	Site was not grazed date Applies to crop, grassland, and savannah sites. See also dist_graze.	dist_ungrazed_duration; ; ;
dist_wildfire_date	Wildfire date	yyyy-mm-dd or mm/dd/yyyy	date	Wildfire date Applies to all site types. Please use the associated note to document changes to vegetation. See also dist_fire_date.	dist_wildfire_severity; ; ;
dist_windthrow_date	Wind throw date	yyyy-mm-dd or mm/dd/yyyy	date	Wind throw date Applies to forest or savannah sites.	dist_windthrow_perc; ; ;
dist_woody_encroachment_date	Woody encroachment date	yyyy-mm-dd or mm/dd/yyyy	date	Woody encroachment date Applies to grassland, cropland, or savannah sites.	; ; ;