	A	B	C	D
1	**VALU Table Theme**	**VALU Table Column Name _ short**	**VALU Table Column Name _ long**	**VALU Table Column Name Short Description**
2	Map unit identifier	mukey	mukey	Map unit key is the unique identifier of a record in the Mapunit table. Use this column to join the Component table to the Mapunit table.
3	Available Water Storage (mm)	aws0_5	aws_0_5	Available water storage estimate (AWS) in standard layer 1 or standard zone 1 (0-5 cm depth), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
4	Available Water Storage (mm)	aws5_20	aws_5_20	Available water storage estimate (AWS) in standard layer 2 (5-20 cm depth), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
5	Available Water Storage (mm)	aws20_50	aws_20_50	Available water storage estimate (AWS) in standard layer 3 (20-50 cm depth), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
6	Available Water Storage (mm)	aws50_100	aws_50_100	Available water storage estimate (AWS) in standard layer 4 (50-100 cm depth), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
7	Available Water Storage (mm)	aws100_150	aws_100_150	Available water storage estimate (AWS) in standard layer 5 (100-150 cm depth), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
8	Available Water Storage (mm)	aws150_999	aws_150_999	Available water storage estimate (AWS) in standard layer 6 (150 cm to the reported depth of the soil profile), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
9	Available Water Storage (mm)	aws0_20	aws_0_20	Available water storage estimate (AWS) in standard zone 2 (0-20 cm depth), expressed in mm. The volume of plant available water that the soil can store in this zone based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
10	Available Water Storage (mm)	aws0_30	aws_0_30	Available water storage estimate (AWS) in standard zone 3 (0-30 cm depth), expressed in mm. The volume of plant available water that the soil can store in this zone based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
11	Available Water Storage (mm)	aws0_100	aws_0_100	Available water storage estimate (AWS) in standard zone 4 (0-100 cm depth), expressed in mm. The volume of plant available water that the soil can store in this zone based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
12	Available Water Storage (mm)	aws0_150	aws_0_150	Available water storage estimate (AWS) in standard zone 5 (0-150 cm depth), expressed in mm. The volume of plant available water that the soil can store in this zone based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
13	Available Water Storage (mm)	aws0_999	aws_0_999	Available water storage estimate (AWS) in total soil profile (0 cm to the reported depth of the soil profile), expressed in mm. The volume of plant available water that the soil can store in this layer based on all map unit components (weighted average). NULL values are presented where data are incomplete or not available.
14	Thickness (cm) used in the Available Water Storage calculation	tk0_5a	thick_0_5_aws	Thickness of soil components used in standard layer 1 or standard zone 1 (0-5 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
15	Thickness (cm) used in the Available Water Storage calculation	tk5_20a	thick_5_20_aws	Thickness of soil components used in standard layer 2 (5-20 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.

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16	Thickness (cm) used in the Available Water Storage calculation	tk20_50a	thick_20_50_aws	Thickness of soil components used in standard layer 3 (20-50 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
17	Thickness (cm) used in the Available Water Storage calculation	tk50_100a	thick_50_100_aws	Thickness of soil components used in standard layer 4 (50-100 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
18	Thickness (cm) used in the Available Water Storage calculation	tk100_150a	thick_100_150_aws	Thickness of soil components used in standard layer 5 (100-150 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
19	Thickness (cm) used in the Available Water Storage calculation	tk150_999a	thick_150_999_aws	Thickness of soil components used in standard layer 6 (150 cm to the reported depth of the soil profile) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
20	Thickness (cm) used in the Available Water Storage calculation	tk0_20a	thick_0_20_aws	Thickness of soil components used in standard zone 2 (0-20 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
21	Thickness (cm) used in the Available Water Storage calculation	tk0_30a	thick_0_30_aws	Thickness of soil components used in standard zone 3 (0-30 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
22	Thickness (cm) used in the Available Water Storage calculation	tk0_100a	thick_0_100_aws	Thickness of soil components used in standard zone 4 (0-100 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
23	Thickness (cm) used in the Available Water Storage calculation	tk0_150a	thick_0_150_aws	Thickness of soil components used in standard zone 5 (0-150 cm) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
24	Thickness (cm) used in the Available Water Storage calculation	tk0_999a	thick_0_999_aws	Thickness of soil components used in total soil profile (0 cm to the reported depth of the soil profile) expressed in cm (weighted average) for the available water storage calculation. NULL values are presented where data are incomplete or not available.
25	Map Unit summed component percentage (representative value) for Available Water Storage calculations (metadata)	musumcpcta	mu_sum_comppct_r_aws	The sum of the comppct_r (SSURGO component table) values used in the available water storage calculation for the map unit. Useful metadata information. NULL values are presented where data are incomplete or not available.
26	Soil Organic Carbon (g C per square meter)	soc0_5	soc_0_5	Soil organic carbon stock estimate (SOC) in standard layer 1 or standard zone 1 (0-5 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter to a depth of 5 cm. NULL values are presented where data are incomplete or not available.
27	Soil Organic Carbon (g C per square meter)	soc5_20	soc_5_20	Soil organic carbon stock estimate (SOC) in standard layer 2 (5-20 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter for the 5-20 cm layer. NULL values are presented where data are incomplete or not available.
28	Soil Organic Carbon (g C per square meter)	soc20_50	soc_20_50	Soil organic carbon stock estimate (SOC) in standard layer 3 (20-50 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter for the 20-50 cm layer. NULL values are presented where data are incomplete or not available.
29	Soil Organic Carbon (g C per square meter)	soc50_100	soc_50_100	Soil organic carbon stock estimate (SOC) in standard layer 4 (50-100 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter for the 50-100 cm layer. NULL values are presented where data are incomplete or not available.
30	Soil Organic Carbon (g C per square meter)	soc100_150	soc_100_150	Soil organic carbon stock estimate (SOC) in standard layer 5 (100-150 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter for the 100-150 cm layer. NULL values are presented where data are incomplete or not available.

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31	Soil Organic Carbon (g C per square meter)	soc150_999	soc_150_999	Soil organic carbon stock estimate (SOC) in standard layer 6 (150 cm to the reported depth of the soil profile). The concentration of organic carbon present in the soil expressed in grams C per square meter for the 150 cm and greater depth layer. NULL values are presented where data are incomplete or not available.
32	Soil Organic Carbon (g C per square meter)	soc0_20	soc_0_20	Soil organic carbon stock estimate (SOC) in standard zone 2 (0-20 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter to a depth of 20 cm. NULL values are presented where data are incomplete or not available.
33	Soil Organic Carbon (g C per square meter)	soc0_30	soc_0_30	Soil organic carbon stock estimate (SOC) in standard zone 3 (0-30 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter to a depth of 30 cm. NULL values are presented where data are incomplete or not available.
34	Soil Organic Carbon (g C per square meter)	soc0_100	soc_0_100	Soil organic carbon stock estimate (SOC) in standard zone 4 (0-100 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter to a depth of 100 cm. NULL values are presented where data are incomplete or not available.
35	Soil Organic Carbon (g C per square meter)	soc0_150	soc_0_150	Soil organic carbon stock estimate (SOC) in standard zone 5 (0-150 cm depth). The concentration of organic carbon present in the soil expressed in grams C per square meter to a depth of 150 cm. NULL values are presented where data are incomplete or not available.
36	Soil Organic Carbon (g C per square meter)	soc0_999	soc_0_999	Soil organic carbon stock estimate (SOC) in total soil profile (0 cm to the reported depth of the soil profile). The concentration of organic carbon present in the soil expressed in grams C per square meter for the total reported soil profile depth. NULL values are presented where data are incomplete or not available.
37	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_5s	thick_0_5_soc	Thickness of soil components used in standard layer or standard zone (0-5 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
38	Thickness (cm) used in the Soil Organic Carbon calculation	tk5_20s	thick_5_20_soc	Thickness of soil components used in standard layer 3 (5-20 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
39	Thickness (cm) used in the Soil Organic Carbon calculation	tk20_50s	thick_20_50_soc	Thickness of soil components used in standard layer 3 (20-50 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
40	Thickness (cm) used in the Soil Organic Carbon calculation	tk50_100s	thick_50_100_soc	Thickness of soil components used in standard layer 4 (50-100 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
41	Thickness (cm) used in the Soil Organic Carbon calculation	tk100_150s	thick_100_150_soc	Thickness of soil components used in standard layer 5 (100-150 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
42	Thickness (cm) used in the Soil Organic Carbon calculation	tk150_999s	thick_150_999_soc	Thickness of soil components used in standard layer 6 (150 cm to the reported depth of the soil profile) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
43	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_20s	thick_0_20_soc	Thickness of soil components used in standard zone 2 (0-20 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
44	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_30s	thick_0_30_soc	Thickness of soil components used in standard zone 3 (0-30 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
45	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_100s	thick_0_100_soc	Thickness of soil components used in standard zone 4 (0-100 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.

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46	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_150s	thick_0_150_soc	Thickness of soil components used in standard zone 5 (0-150 cm) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
47	Thickness (cm) used in the Soil Organic Carbon calculation	tk0_999s	thick_0_999_soc	Thickness of soil components used in total soil profile (0 cm to the reported depth of the soil profile) expressed in cm (weighted average) for the Soil Organic Carbon calculation. NULL values are presented where data are incomplete or not available.
48	Map Unit summed component percentage (representative value) for Soil Organic Carbon calculations (metadata)	musumcpcts	mu_sum_comppct_r_soc	The sum of the comppct_r (SSURGO component table) values used in the soil organic carbon calculation for the map unit. Useful metadata information. NULL values are presented where data are incomplete or not available.
49	National Commodity Crop Productivity Index - CORN and SOYBEANS	nccpi2cs	nccpi2_corn_soybeans	National Commodity Crop Productivity Index for Corn and Soybeans (weighted average) for major earthy components. Values range from .01 (low productivity) to .99 (high productivity). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
50	National Commodity Crop Productivity Index - SMALL GRAINS	nccpi2sg	nccpi2_small_grains	National Commodity Crop Productivity Index for Small Grains (weighted average) for major earthy components. Values range from .01 (low productivity) to .99 (high productivity). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
51	National Commodity Crop Productivity Index - COTTON	nccpi2co	nccpi2_cotton	National Commodity Crop Productivity Index for Cotton (weighted average) for major earthy components. Values range from .01 (low productivity) to .99 (high productivity). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
52	National Commodity Crop Productivity Index - OVERALL	nccpi2all	nccpi2_overall	National Commodity Crop Productivity Index that has the highest value among Corn and Soybeans, Small Grains, or Cotton (weighted average) for major earthy components. Values range from .01 (low productivity) to .99 (high productivity). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
53	National Commodity Crop Productivity Index - map unit percent earthy major components (metadata)	pctearthmc	mapunit_percent_earthy_mc	The National Commodity Crop Productivity Index map unit percent earthy is the map unit summed comppct_r for major earthy components. Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). Useful metadata information. NULL values are presented where data are incomplete or not available.
54	Root Zone Depth (cm) - earthy major components	rootznemc	root_zone_cc_depth_earthy_mc	Root zone depth is the depth within the soil profile that commodity crop (cc) roots can effectively extract water and nutrients for growth. Root zone depth influences soil productivity significantly. Soil component horizon criteria for root-limiting depth include: presence of hard bedrock, soft bedrock, a fragipan, a duripan, sulfuric material, a dense layer, a layer having a pH of less than 3.5, or a layer having an electrical conductivity of more than 12 within the component soil profile. If no root-restricting zone is identified, a depth of 150 cm is used to approximate the root zone depth (Dobos et al., 2012). Root zone depth is computed for all map unit major earthy components (weighted average). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.

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55	Root Zone Available Water Storage (mm) - earthy major components	rootznaws	root_zone_cc_aws_earthy_mc	Root zone (commodity crop) available water storage estimate (RZAWS) , expressed in mm, is the volume of plant available water that the soil can store within the root zone based on all map unit earthy major components (weighted average). Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
56	Droughty Soil Landscapes - earthy major components	droughty	drought_vulnerable_soil_landscapes	Drought vulnerable soil landscapes comprise those map units that have available water storage within the root zone for commodity crops that is less than or equal to 6 inches (152 mm) expressed as "1" for a drought vulnerable soil landscape map unit or "0" for a non-droughty soil landscape map unit or NULL for miscellaneous areas (includes water bodies). It is computed as a weighted average for major earthy components. Earthy components are those soil series or higher level taxa components that can support crop growth (Dobos et al., 2012). Major components are those soil components where the majorcompflag = 'Yes' (SSURGO component table). NULL values are presented where data are incomplete or not available.
57	Potential Wetland Soil Landscapes	pwsl1pomu	pwsl1_percent_of_mapunit	"Potential Wetland Soil Landscapes" (PWSL) is expressed as the percentage of the map unit that meets the PWSL criteria. The hydric rating (soil component variable “hydricrating”) is an indicator of wet soils. For version 1 (pwsl1), those soil components that meet the following criteria are tagged as PWSL and their comppct_r values are summed for each map unit. Soil components with hydricrating = 'YES' are considered PWSL. Soil components with hydricrating = “NO” are not PWSL. Soil components with hydricrating = 'UNRANKED' are tested using other attributes, and will be considered PWSL if any of the following conditions are met: drainagecl = 'Poorly drained' or 'Very poorly drained' or the localphase or the otherph data fields contain any of the phrases "drained" or "undrained" or "channeled" or "protected" or "ponded" or "flooded". If these criteria do not determine the PWSL for a component and hydricrating = 'UNRANKED', then the map unit will be classified as PWSL if the map unit name contains any of the phrases "drained" or "undrained" or "channeled" or "protected" or "ponded" or "flooded". For version 1 (pwsl1), waterbodies are identified as "999" when map unit names match a list of terms that identify water or intermittent water or map units have a sum of the comppct_r for "Water" that is 80% or greater. NULL values are presented where data are incomplete or not available.
58	Map Unit summed component percentage (representative value) (metadata)	musumcpct	mu_sum_comppct_r	The sum of the comppct_r (SSURGO component table) values for all listed components in the map unit. Useful metadata information. NULL values are presented where data are incomplete or not available.
59	[1]Dobos, R. R., H. R. Sinclair, Jr, and M. P. Robotham. 2012. National Commodity Crop Productivity Index (NCCPI) User Guide, Version 2. USDA-NRCS. Available at: ftp://ftp-fc.sc.egov.usda.gov/NSSC/NCCPI/NCCPI_user_guide.pdf.			