# pH (1 to 1 Water)

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| AkA | Altavista fine sandy loam, 0 to 2 percent slopes | 4.9 | 805.1 | 0.3% |
| AmC2 | Appling sandy loam, 6 to 10 percent slopes, moderately eroded | 5.1 | 27,941.1 | 10.0% |
| AnC2 | Appling sandy clay loam, 6 to 10 percent slopes, eroded | 5.0 | 4,113.3 | 1.5% |
| ApB | Appling-Hard Labor complex, 2 to 6 percent slopes | 5.0 | 18,021.9 | 6.4% |
| ARE | Ashlar, Rion, and Wateree soils, 10 to 25 percent slopes | 5.3 | 10,965.4 | 3.9% |
| AsF | Ashlar-Wateree complex, 15 to 45 percent slopes, stony | 5.3 | 3,062.7 | 1.1% |
| ATD | Ashlar and Wedowee soils, 6 to 15 percent slopes | 5.3 | 1,258.7 | 0.5% |
| AuA | Augusta soils | 5.3 | 437.2 | 0.2% |
| BCD | Bethlehem and Cecil soils, 6 to 15 percent slopes | 5.0 | 425.5 | 0.2% |
| Bfs | Buncombe loamy fine sand | 5.5 | 361.2 | 0.1% |
| CeC | Cecil gravelly sandy loam, 2 to 10 percent slopes | 5.1 | 520.9 | 0.2% |
| CfC2 | Cecil clay loam, 6 to 10 percent slopes, eroded | 5.1 | 1,062.0 | 0.4% |
| Cfs | Chewacla silt loam, 0 to 2 percent slopes, frequently flooded | 5.9 | 19,534.3 | 7.0% |
| Cus | Congaree loam | 5.7 | 804.5 | 0.3% |
| CYB2 | Cecil sandy loam, 2 to 6 percent slopes, moderately eroded | 5.0 | 2,904.4 | 1.0% |
| CYC2 | Cecil sandy loam, 6 to 10 percent slopes, moderately eroded | 5.0 | 2,972.4 | 1.1% |
| CYD2 | Cecil sandy loam, 10 to 15 percent slopes, eroded | 5.1 | 1,101.8 | 0.4% |

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| DAM | Dam | | 6.6 | 0.0% |
| GeB2 | Gwinnett clay loam, 2 to 6 percent slopes, eroded | 5.8 | 5,296.0 | 1.9% |
| GeC2 | Gwinnett clay loam, 6 to 10 percent slopes, eroded | 5.8 | 9,521.0 | 3.4% |
| GeE2 | Gwinnett clay loam, 10 to 25 percent slopes, eroded | 5.8 | 9,163.4 | 3.3% |
| GgB2 | Gwinnett loam, 2 to 6 percent slopes, eroded | 5.8 | 2,256.6 | 0.8% |
| GgC2 | Gwinnett loam, 6 to 10 percent slopes, eroded | 5.8 | 3,596.3 | 1.3% |
| GgE2 | Gwinnett loam, 10 to 25 percent slopes, eroded | 5.8 | 6,407.2 | 2.3% |
| HdB | Hard Labor sandy loam, 2 to 6 percent slopes | 5.4 | 3,602.9 | 1.3% |
| HYB | Helena sandy loam, 2 to 6 percent slopes | 4.8 | 215.7 | 0.1% |
| LdB | Lloyd loam, 2 to 6 percent slopes | 5.5 | 813.8 | 0.3% |
| LdC | Lloyd loam, 6 to 10 percent slopes | 5.5 | 501.2 | 0.2% |
| LfB2 | Lloyd clay loam, 2 to 6 percent slopes, moderately eroded | 5.5 | 941.2 | 0.3% |
| LfC2 | Lloyd clay loam, 6 to 10 percent slopes, moderately eroded | 5.5 | 1,244.7 | 0.4% |
| LfD2 | Lloyd clay loam, 10 to 15 percent slopes, moderately eroded | 5.5 | 669.1 | 0.2% |
| MCD | Musella cobbly loam, 6 to 15 percent slopes | 6.1 | 1,522.9 | 0.5% |
| MCF | Musella cobbly loam, 15 to 45 percent slopes | 6.1 | 1,905.1 | 0.7% |
| MhB2 | Madison gravelly sandy loam, 2 to 6 percent slopes, eroded | 5.2 | 1,896.5 | 0.7% |
| MhC2 | Madison gravelly sandy loam, 6 to 10 percent slopes, eroded | 5.2 | 4,715.7 | 1.7% |
| MiB2 | Madison sandy clay loam, 2 to 6 percent slopes, eroded | 5.2 | 1,822.5 | 0.7% |

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| MiC2 | Madison sandy clay loam, 6 to 10 percent slopes, moderately eroded | 5.0 | 6,630.3 | 2.4% |
| MiD2 | Madison sandy clay loam, 10 to 15 percent slopes, moderately eroded | 5.0 | 10,432.5 | 3.7% |
| MiF2 | Madison sandy clay loam, 15 to 45 percent slopes, eroded | 5.2 | 14,064.5 | 5.0% |
| PfB2 | Pacolet sandy loam, 2 to 6 percent slopes, moderately eroded | 5.3 | 7,911.9 | 2.8% |
| PfC2 | Pacolet sandy loam, 6 to 10 percent slopes, moderately eroded | 5.3 | 12,090.8 | 4.3% |
| PgB2 | Pacolet sandy clay loam, 2 to 6 percent slopes, moderately eroded | 5.3 | 2,162.6 | 0.8% |
| PgC2 | Pacolet sandy clay loam, 6 to 10 percent slopes, moderately eroded | 5.3 | 6,846.8 | 2.5% |
| PgD2 | Pacolet sandy clay loam, 10 to 15 percent slopes, moderately eroded | 5.3 | 12,108.0 | 4.3% |
| PgE2 | Pacolet sandy clay loam, 15 to 25 percent slopes, moderately eroded | 5.3 | 7,405.4 | 2.7% |
| PhE3 | Pacolet-Gullied land complex, 10 to 25 percent slopes, severely eroded | 5.3 | 223.9 | 0.1% |
| PsF | Pacolet-Saw complex, 15 to 45 percent slopes, stony | 5.3 | 1,902.9 | 0.7% |
| RAC | Rawlings and Rion soils, 2 to 10 percent slopes | 5.5 | 6,733.7 | 2.4% |
| RhB | Red Bay sandy loam, 2 to 6 percent slopes | 5.1 | 208.4 | 0.1% |
| RNF | Rion and Bethlehem soils, 15 to 45 percent slopes, stony | 5.5 | 2,472.9 | 0.9% |
| RwD | Rock outcrop-Wake complex, 2 to 15 percent slopes | | 676.8 | 0.2% |
| ToA | Toccoa fine sandy loam, 0 to 4 percent slopes, frequently flooded | 5.8 | 8,671.6 | 3.1% |

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|---|---|---|---|---|
| Ua | Udorthents | | 140.7 | 0.1% |
| Ub | Urban land-Udorthents complex | | 1,534.6 | 0.5% |
| W | Water | | 3,604.5 | 1.3% |
| Wed | Wehadkee soils, 0 to 2 percent slopes, frequently flooded | 5.6 | 1,974.4 | 0.7% |
| WgB2 | Wickham sandy loam, 2 to 6 percent slopes | 5.4 | 742.3 | 0.3% |
| WgC2 | Wickham sandy loam, 6 to 10 percent slopes | 5.4 | 487.9 | 0.2% |
| WHD | Wilkes-Iredell cobbly complex, 6 to 15 percent slopes | 6.3 | 596.4 | 0.2% |
| WkA | Worsham sandy loam, 0 to 2 percent slopes | 5.0 | 418.5 | 0.1% |
| WkB | Worsham sandy loam, 2 to 6 percent slopes | 5.0 | 1,748.3 | 0.6% |
| WrE2 | Wedowee sandy loam, 10 to 25 percent slopes, eroded | 4.6 | 15,252.1 | 5.5% |
| **Totals for Area of Interest** | | | **279,433.3** | **100.0%** |

## Description

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion. In general, soils that are either highly alkaline or highly acid are likely to be very corrosive to steel. The most common soil laboratory measurement of pH is the 1:1 water method. A crushed soil sample is mixed with an equal amount of water, and a measurement is made of the suspension.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

## Rating Options

*Aggregation Method:* Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

*Component Percent Cutoff: None Specified*

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

*Tie-break Rule:* Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

*Interpret Nulls as Zero:* No

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.

*Layer Options (Horizon Aggregation Method):* All Layers (Weighted Average)

For an attribute of a soil horizon, a depth qualification must be specified. In most cases it is probably most appropriate to specify a fixed depth range, either in centimeters or inches. The Bottom Depth must be greater than the Top Depth, and the Top Depth can be greater than zero. The choice of "inches" or "centimeters" only applies to the depth of soil to be evaluated. It has no influence on the units of measure the data are presented in.

When "Surface Layer" is specified as the depth qualifier, only the surface layer or horizon is considered when deriving a value for a component, but keep in mind that the thickness of the surface layer varies from component to component.

When "All Layers" is specified as the depth qualifier, all layers recorded for a component are considered when deriving the value for that component.

Whenever more than one layer or horizon is considered when deriving a value for a component, and the attribute being aggregated is a numeric attribute, a weighted average value is returned, where the weighting factor is the layer or horizon thickness.