

RegGIS Layers & Classes

Layer No.	Layer	Classes	Description
Natural Resources			
1	Prime Agriculture Soils (By Zip Code)	1. Low (< 20% Prime Farmland) 2. Moderate (20 – 60% Prime Farmland) 3. High (60 – 100% Prime Farmland)	Prime agricultural farmland is defined by the U.S. Department of Agriculture as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, and oilseed crops and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). Not building on prime farmland conserves land, habitats, and resources and promotes building on urban or previously-developed land.
2	NatureServe analysis: historical or imperiled species	1. Low (< 20% of Area Imperiled) 2. Moderate (20 – 40% of Area Imperiled) 3. High (40 – 100% of Area Imperiled)	NatureServe provides a database about endangered species. Regions home to many historical or imperiled species should prioritize conserving these habitats, locating projects in low area imperiled areas.
3	Tree Canopy (By Nationwide Grid)	None (Presence/Absence of Tree Canopy in 90 sq m grid)	Tree canopy represents the aboveground portion of a plant community or crop, formed by plant crowns. By displaying the tree canopy, this overlay indicates the density of trees in a given area. The lower the density, the fewer trees there are to assist in mitigating stormwater and reducing an urban heat island effect. LEED buildings can therefore assist in mitigating these issues by incorporating particular strategies on their project sites. Tree canopy greater than 1% is considered to have a tree presence.
4	Climate Zones (By County)	1-8	The ASHRAE climate zones are distinct, geographic areas that share similar environmental and climatic conditions (temperature, precipitation, sunshine, etc.). These zones are important to consider when trying to meet specific building energy codes.
Water Resources			
5	Rainfall (By County)	1. Low (< 29 in/year) 2. Moderate (29 – 49 in/year) 3. High (> 49 in/year)	Rainfall has an effect on many building considerations. Areas with low rainfall may wish to prioritize credits relating to water conservation or reuse. Areas with high rainfall may concentrate on credits dealing with rainwater collection or minimizing runoff.
6	Wetlands (By Wetland Boundaries)	None (Presence/Absence of Wetland Polygon)	Wetlands are defined by the United States Code of Federal Regulations as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. As sensitive areas and important habitats, regions containing many wetlands may prioritize sites away from wetlands as well as stormwater quality control.
7	Floodplains (By Floodplain Boundaries)	None (Presence/Absence of SFHZ)	Floodplains are any land areas susceptible to being inundated by floodwaters from any source. These areas are particularly sensitive, of which LEED discourages any building or hardscape development though prerequisites (in Neighborhood Development) or credits (in the Design & Construction rating systems).
8	Impaired Watersheds (By Watershed)	None (Presence/Absence of Impaired Watershed)	This overlay displays areas where the water within a given watershed does not meet water quality standards for its designated use. This relates to LEED when project teams are deciding on building location and design, procurement of building materials, solid and liquid waste removal, and water efficiency.

9	Residential Water Use (By County)	<ol style="list-style-type: none"> 1. Low (1 – 66 Gallons/Day/Person) 2. Moderate (66 – 160 Gallons/Day/Person) 3. High (> 160 Gallons/Day/Person) 	The overlay shows estimated total water use for a given area. LEED rewards projects for reducing both indoor and outdoor water use.
Energy			
10	Total Energy Use (By State)	<ol style="list-style-type: none"> 1. Low (< 289 MBTU/person/day) 2. Moderate (290 – 435 MBTU/person/day) 3. High (> 435 MBTU/person/day) 	This overlay shows estimates for total, commercial sector, industrial sector, residential sector, and transportation sector per state energy consumption for the United States. Areas with high energy consumption might benefit from using alternative energy sources.
11	Electricity CO2 Content (By State)	<ol style="list-style-type: none"> 1. Low (< 1089 lbs/MWh) 2. Moderate (1090 – 1847 lbs/MWh) 3. High (> 1847 lbs/MWh) 	Local electric carbon content is the measure of the carbon density in the local power supply. This metric provides an indication of how much coal is used for power generation and is important for projects to consider when selecting energy sources.
12	Solar Energy Resource Potential (By Nationwide Grid)	<ol style="list-style-type: none"> 1. Moderate (< 4 kWh/Sq Meter/Day) 2. Good (4 – 6 kWh/Sq Meter/Day) 3. Excellent (> 6 kWh/Sq Meter/Day) 	Solar Energy Resource Potential shows geographic areas where solar energy resources are available. The use of renewable energy reduces environmental and economic impacts associated with fossil fuel use. This overlay condenses the National Renewable Energy Laboratory classifications.
13	Wind Energy Resource Potential (By Wind Resource Areas)	<ol style="list-style-type: none"> 1. Marginal (<300 w/sq m) 2. Good (301-600 w/sq m) 3. Outstanding (>601 w/sq m) 	Wind Energy Resource Potential shows geographic areas where wind energy resources are available. The use of renewable energy reduces environmental and economic impacts associated with fossil fuel use. This overlay condenses the National Renewable Energy Laboratory classifications.
Communities			
14	Population Density (By Block Group)	<ol style="list-style-type: none"> 1. Rural (< 500 People/Sq Mile) 2. Urban (> 500 People/Sq Mile) 	Population density represents the number of people in a given area. Population density is arguably one of the best indicators of the extent to which human development effects the natural environment, as the built environment (buildings, roads, and other hardscape) will increase with population density and subsequently alter the natural environment. LEED-related decisions involve whether or not to build in a dense setting as well as the building features to include in a given density (i.e., the extra need to include rainwater quantity controls for an overtaxed water and waste water system). This overlays adheres to the Census Bureau definitions of urban and rural.
15	Combined Sewer Outfall (By Municipality/County)	None (Presence/Absence of CSO System)	CSO occurs when heavy rainfall or thaw conditions overload a sewer system designed to carry both waste and stormwater. The result is the discharge of untreated sewage into receiving waters. These situations are predominantly found in older urban cores. LEED encourages projects to not contribute to this issue through, among other things, rainwater management and water efficiency credits.
16	Brownfields (By Zip Code)	<ol style="list-style-type: none"> 1. Low (1 Site per Zip Code) 2. Moderate (2 – 5 Sites) 3. High (> 5 Sites) 	This overlays shows the number of brownfield sites per zipcode. Brownfields are abandoned or underused urban areas in which redevelopment is blocked by liability or financing issues related to toxic contamination. They hold significant redevelopment potential and reduce the pressure of using undeveloped land. LEED rewards projects that locate on and clean-up brownfield locations.

17	Clean Air Non-Attainment (By County)	1. Nonattainment 2. Maintenance	Using the EPA designation, a Non-attainment overlay identifies counties where air pollution levels persistently have exceeded national air quality standards established by the Clean Air Act, and nearby counties whose pollutant emissions contributed to the elevated levels. Areas with air quality nonattainment may encourage projects to use renewable energy or alternative transportation options.
18	Obesity (By County)	1. Low (< 27.2% of Country Population) 2. Moderate (27.3 – 31.1%) 3. High (>31.1%)	Obesity is specifically defined as having a body mass index (BMI) over 30. The built environment has a very important role in leading to or preventing obesity. Where buildings are located and the transportation and basic service choices that are (or are not) nearby can have an important role in this expanding health concern.
19	Excess Auto Fuel Consumption Due to Congestion (By 100 Largest Urban Areas)	1. Low (6 – 15 Gallons/Yr/Commuter) 2. Moderate (15 – 30 Gallons/Yr/Commuter) 3. High (30 – 57 Gallons/Yr/Commuter)	Areas where fuel consumption is high should look to decrease automobile usage. LEED rewards projects for being located in walking distance to basic services and public transportation and in high-density areas. Projects are also rewarded for encouraging biking, car-pooling, and other fuel-less and less carbon intensive modes of transportation.
20	Impervious Surface (in 90 sq meter grid)	1. Low (< 10% Impervious Surface) 2. Moderate (10 – 25 % Impervious Surface) 3. High (25 – 100 % Impervious Surface)	The USGS map shows imperviousness of the land cover. Rooftops, roads, and parking lots are impenetrable to water and affect climate, water runoff and evaporation, and flooding. LEED rewards projects for minimizing the amount of impervious area on their site.
21	LEED Regional Priority Zones	196 distinct classes divided by chapter color rendering unique by chapter	This shows the areas of LEED 2009 priority zones for the building-specific rating systems.