This map displays the center pivot irrigation systems in use in Lee County, Illinois during the 2012 growing season. Sandy soils are common in Lee County and are often sand and gravel deposits or fine sands formed by the wind. The saturated hydraulic conductivity layer represents soils with a value of 1 to 10 micrometers per second in the upper 30 inches of soil, a value typical of sandy soils in Illinois. Saturated hydraulic conductivity is a measure of the ease with which water will move through a soil, and values typically increase with the sand content. Traditionally, irrigation is needed where sandy soils are present due to their low water holding capacity and high hydraulic conductivity. This layer provides a general location for areas that are more likely to require irrigation for a successful crop.

A. Center pivot irrigation emits identifiable circular patterns on the landscape which can be visible in aerial images. The USDA collects aerial images during the crop growing season through the National Agricultural Imagery Program (NAIP) and makes them available through the USDA Geospatial Data Gateway. Images used for this research were collected by the USDA between June 1 and July 3, 2012, and accessed on January 15, 2013.

B. The NAIP images were examined for circular irrigation patterns, and field boundaries were traced to create a map layer. A total of 283 center pivot systems were identified in Lee County during the summer of 2012, representing 26,476 acres of farmland.

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