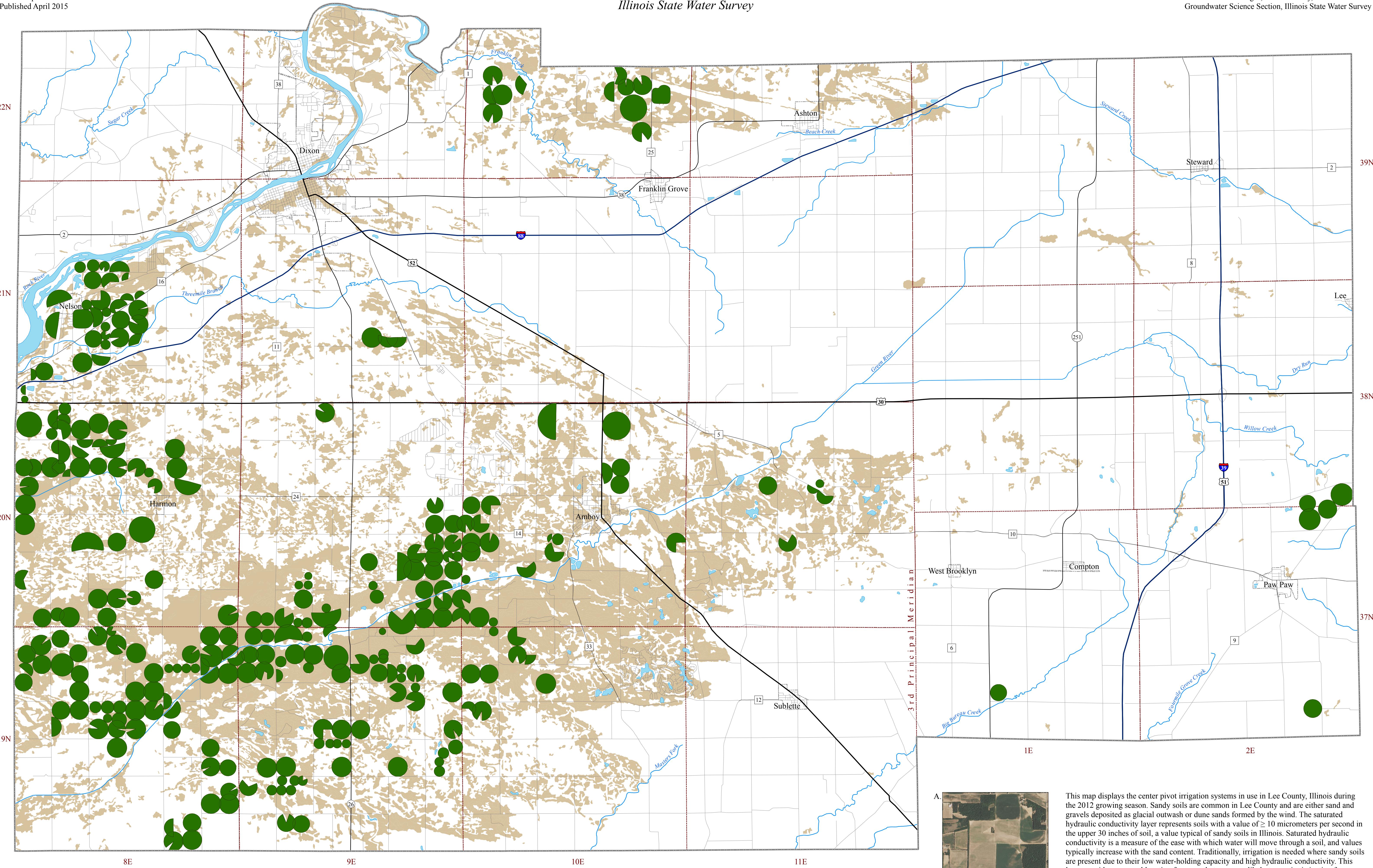


2012 Center Pivot Irrigation in Lee County, Illinois

Illinois State Water Survey

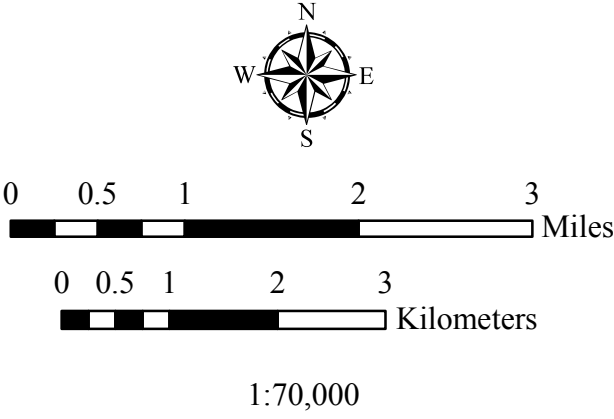
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Funding was provided in part by Illinois Department of Natural Resources. The technical content of the map is the responsibility of the authors. The user assumes all liability for the interpretation and use of the map. Map compiled by Karen Bridges and Rebecca Perry. Projection: Lambert Conformal Conic.
Sources: National Agricultural Imagery Program (NAIP) and Soil Survey Geographic Database (SSURGO 2.2) from the USDA Geospatial Gateway, <http://datagateway.nrcs.usda.gov>
USDA National Agricultural Statistics Service, <http://www.nass.usda.gov/>
www.isws.illinois.edu, 217-333-6800
University of Illinois, www.illinois.edu



- Center Pivot Irrigated Field
- Saturated Hydraulic Conductivity ($\geq 10 \mu\text{m/s}$)
- Water Body
- Township Boundary
- Municipality
- Interstate Highway
- U.S. Highway
- State Highway
- County Highway
- River/Stream



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 either sand and gravels deposited as glacial outwash or dune sands formed by the wind. The saturated hydraulic conductivity layer represents soils with a value of ≥ 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 imprints 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.

USDA (2007 NASS Census) reported 395,624 total acres of farmland in Lee County, suggesting that center pivot irrigation is used in approximately 7 percent of all farmland in this county.