

2012 Center Pivot Irrigation in Mason County, Illinois

Illinois State Water Survey



This map displays the center pivot irrigation systems in use in Mason County, Illinois during the 2012 growing season. Mason County has the most irrigated acreage in the state, nearly double that of any other Illinois county. Sandy soils and annual precipitation of about 38 inches promote significant groundwater recharge. An extensive shallow aquifer provides an abundant source of water that, historically, has not led to any long-term lowering of water levels or depletion of the aquifer even as irrigation has significantly expanded. The Imperial Valley Water Authority, which is a local government entity that regulates non-agricultural high capacity wells in Mason County and parts of six townships in Tazewell County, estimated groundwater withdrawals for irrigation in Mason County in 2012 to be a little over 70 billion gallons, which is 587 million gallons a day (MGD) over a 120-day growing season.



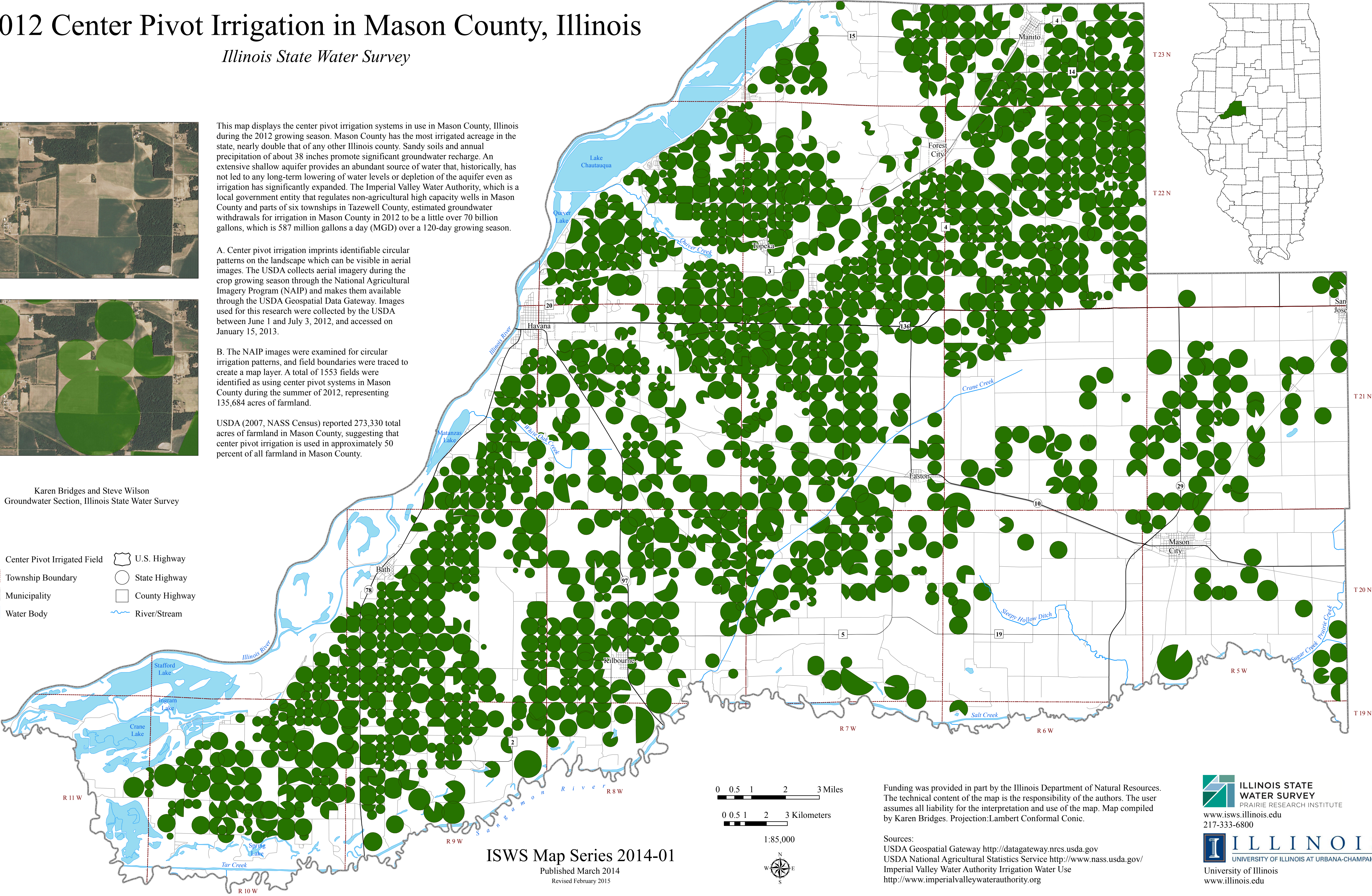
A. Center pivot irrigation imprints identifiable circular patterns on the landscape which can be visible in aerial images. The USDA collects aerial imagery during the crop growing season through the National Agricultural Imagery Program (NAIP) and makes them available through the USDA Geospatial Data 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 1553 fields were identified as using center pivot systems in Mason County during the summer of 2012, representing 135,684 acres of farmland.

USDA (2007, NASS Census) reported 273,330 total acres of farmland in Mason County, suggesting that center pivot irrigation is used in approximately 50 percent of all farmland in Mason County.

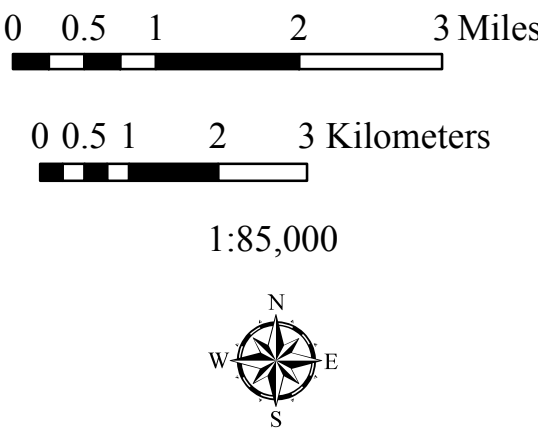
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- Center Pivot Irrigated Field
- Township Boundary
- Municipality
- Water Body
- U.S. Highway
- State Highway
- County Highway
- River/Stream



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Sources:
USDA Geospatial Gateway <http://datagateway.nrcs.usda.gov>
USDA National Agricultural Statistics Service <http://www.nass.usda.gov/>
Imperial Valley Water Authority Irrigation Water Use <http://www.imperialvalleywaterauthority.org>