This map displays the center pivot irrigation systems in use in Tazewell County, Illinois during the 2012 growing season. An extensive shallow aquifer provides an abundant source of water that, because of adequate rainfall and subsequent recharge, historically has not led to any long-term reduction in water levels or depletion of the aquifer even as irrigation has significantly expanded. The Imperial Valley Water Authority is a local government entity that regulates non-agricultural high-capacity wells in parts of six townships in Tazewell County and all of Mason County. The IVWA estimated groundwater withdrawals for irrigation in Tazewell County in 2012 to be approximately 28 billion gallons, which equates to about 233 million gallons a day (MGD) across a 120-day growing season. Together, Mason and Tazewell Counties accounted for nearly 100 billion gallons of groundwater withdrawal for irrigation in 2012.

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 5, 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 449 fields were identified as using center pivot systems in Tazewell County during the summer of 2012, representing 42,419 acres of farmland.

USDA reported 337,376 total acres of farmland in Tazewell County, suggesting that center pivot irrigation systems are used to irrigate approximately 13 percent of all farmland in this county (2012, NASS Census).

Sources:
- Imperial Valley Water Authority Irrigation Water Use, http://www.imperialvalleywaterauthority.org

Published February 2015
ISWS Map Series 2015-01
Karen Bridges and Steve Wilson
Groundwater Science Section, Illinois State Water Survey

Funding was provided in part by the 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.