



# Farm Credit Services of America

## GIS Makes Land Appraisal More Efficient

### CASE STUDY



#### CHALLENGE

The agricultural lending organization needed to find more accurate and efficient means of analyzing data and valuing farmland for agricultural loans.

#### RESULTS

- A 25 percent increase in appraisal team productivity without adding staff
- Appraisers able to work more efficiently in the field
- Appraisals completed more quickly
- Use of productivity ratings standardized throughout the real estate process
- Multiple entries of same data eliminated

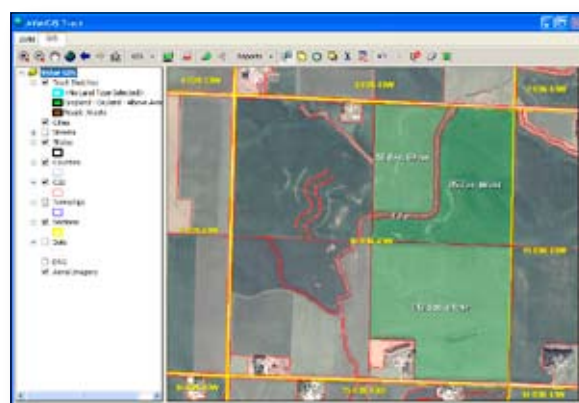
*"By using this system and changing our processes, we have been able to maintain good appraisal turnaround time as the company continues to grow."*

*Kirk Manker,  
VP Chief Appraiser*

Farm Credit Services of America (FCS-America) is based in Omaha, Nebraska, and provides financial services to agricultural-related enterprises in Iowa, Nebraska, South Dakota, and Wyoming. Farm Credit Services of America has \$13.5 billion in loans outstanding and is part of the larger Farm Credit System, a \$186 billion nationwide agricultural network of lending institutions serving farmers, ranchers, and agricultural businesses.

#### The Challenge

FCS-America has a 50-member appraisal team located throughout four midwestern states. The appraisal team is responsible for valuing real estate and chattel assets as part of the loan approval process. The appraisal team has had to complete more appraisals each year for the past 10 years without increasing the number of staff members.



*Properties can easily be selected and inventoried.*

A variety of geographic data is analyzed to value land including field borders, soil type, and crop suitability on both subject properties and comparable sales. Accurately applying the correct data in the valuation process is critically important to maintain sound lending practices.

Prior to using ESRI's enterprise geographic information systems (GIS), the appraisal team had been using paper-based aerial photos and soil books, which was slow and tedious work.

#### The Solution

Farm Credit Services selected ESRI® GIS software, including ArcGIS® Server with the Image extension, to integrate spatial analysis capabilities into its internally developed real estate valuation software. FCS-America contracted with ESRI business partner GIS Workshop, Inc., based in Lincoln, Nebraska, and ValueScape, based in Denver, Colorado, to enhance its existing real estate valuation process using Automated Valuation Modeling (AVM) systems and ESRI GIS.

Web-based GIS capabilities are integrated into FCS-America's enterprise real estate appraisal system using ArcGIS Server service-oriented architecture capabilities, providing easy-to-view maps and data access and spatial analysis for up to 250 users in both connected and disconnected environments. One and a half terabytes of data, including aerial imagery, common land unit (CLU), and soil data, can now be used to value land accurately.

The heavy users of the system are FCS-America appraisers and sales specialists, who are assigned to an eight- to ten-county area. The appraisal team completes approximately 4,500 appraisals and analyzes 7,500 real estate sales on an annual basis. Financial officers also

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## Farm Credit Services of America

### ESRI SOFTWARE USED

ArcGIS Engine  
ArcGIS Server  
ArcGIS Server Image extension

### OTHER SOFTWARE USED

Microsoft® .NET 2.0  
Microsoft SQL Server® 2000, 2005

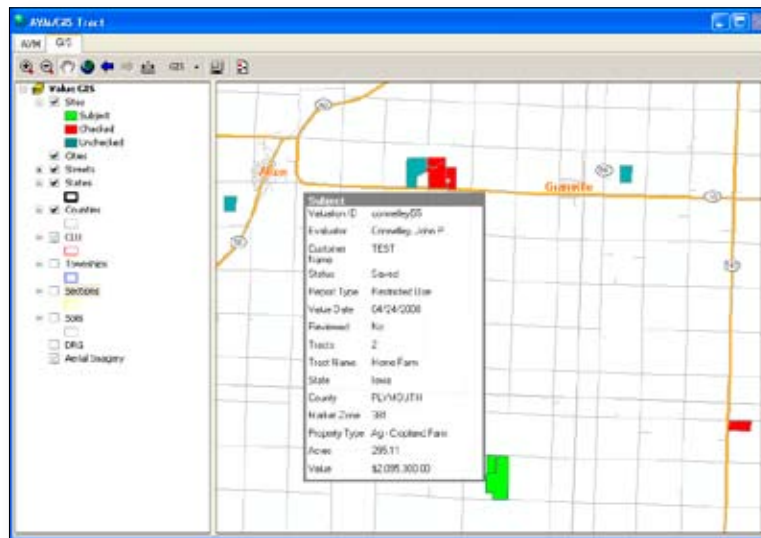
### DATA USED

MrSID® files  
CLU data  
USDA soil data  
Streets

use the system to complete 1,500 valuations annually. With ArcGIS, the users now have the ability to view maps and imagery and download and analyze land data on their laptops or over the Web using ArcGIS Engine and ArcGIS Server capabilities.

Using ArcGIS, appraisers can navigate to the land being appraised and select the appropriate geographic data to be used in the valuation. The appraisers are able to perform land valuations with higher levels of confidence, knowing they have data that correctly corresponds, geographically, to the appraised land.

ArcGIS Server and ArcGIS Engine also provide tools for the appraisal team to select single or multiple CLU polygons or, if necessary, split a CLU polygon or digitize a new area. Appraisers can then overlay data, such as soil type, to perform spatial analysis. Comparable farm sales data can also be identified and selected within a radius defined by the appraiser to feed into the AVM.



*Details about the subject and sales data of a selected property can be seen by hovering over the property.*

### The Results

By integrating GIS into the appraisal system, appraisers and financial officers can quickly and easily view, access, and analyze land data to perform valuations and appraisals. The new appraisal system enables property valuations to be done much more efficiently and easily than before; enhancing the land valuation process with GIS has helped FCS-America achieve a 25 percent increase in productivity over the past two years without hiring additional appraisers.

### FOR MORE INFORMATION



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