



# GEO-ENABLING GOVERNMENT BUSINESS PRACTICES

## US DEPARTMENT OF AGRICULTURE, FARM SERVICE AGENCY

### TOOL FOR ENVIRONMENTAL RESOURCE RESULTS ASSESSMENT (TERRA)

**Background:** The Tool for Environmental Resource Results Assessment (TERRA) helps the USDA's Farm Service Agency (FSA) calculate the environmental and monetary costs and benefits associated with land entering into the Conservation Reserve Program (CRP).

**Value Statement:** CRP is an FSA program that encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover by renting a portion of their land for 10 to 15 years. Land in CRP is rented from farmers on a long term basis and used for environmental purposes (especially to prevent soil erosion) rather than growing crops. Certain parts of the country have more CRP land than others, depending on the need to stop soil erosion or preserve an ecosystem in a particular region. FSA developed TERRA to help streamline the processes needed to enter new lands into the CRP program.



#### Key Challenges

- Determining the eligibility of farmland that may enter the CRP program requires numerous data inputs from various sources. These sources need to be considered together to calculate the eligibility of land to be enrolled in CRP.
- Visualizing information is important for understanding which areas may be best suited for the program. Displaying this information together consistently across the nation can be challenging.

#### How Did FSA Address These Challenges?

- TERRA combines 27 formerly independent functions that, taken together, determine the costs and benefits associated with paying a farmer to forgo planting crops on a portion of his or her land by looking at different scenarios.
- The tool calculates the amount of money the farmer will be paid per-acre for the conserved land based on its benefit to the environment using soil productivity, acreage, location, and other factors.
- The database will calculate the cost to the government upfront as well as the maintenance cost.
- Users can add additional tabs to the TERRA map and import more data if needed to evaluate an area of interest.
- TERRA also interfaces with other FSA GIS data sets such as the Common Land Unit Database and the Conservation On-Line System to access information required for some calculations.
- TERRA's flexible design allows for integration of new functions and updates if new data or enhancements are identified.

#### Key Benefits

Using GIS to automate calculations of environmental data and inputs, FSA reduced the time it spent identifying eligible CRP sites, calculating the costs associated with renting this land from the farmer and determining the benefit to the environment. Faster calculations and the ability to visualize CRP lands on a map improve the information available for farmers and FSA staff to make decisions regarding the properties selected for entering the program.

#### For Additional Information, Please Contact:

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Photo courtesy of USDA Natural Resources Conservation Service