INTETICS ENHANCES RESOURCE MANAGEMENT WITH INTERACTIVE LAND USE MAPS

Objective

To help a cadaster agency update interactive land use maps for better land resources administration and management.

Challenge

The client was dissatisfied with existing land use maps, but did not have the geo-expertise to improve the maps internally. They wanted to update the information contained in the interactive land distribution maps that are frequently used by farmers and land owners to monitor land use coverage. The client was looking for a partner to revise existing data and find latest land use and land cover data of a specific area without onsite investigation. They needed a partner able to analyze remote sensing data and satellite images, organize data, and map the results.
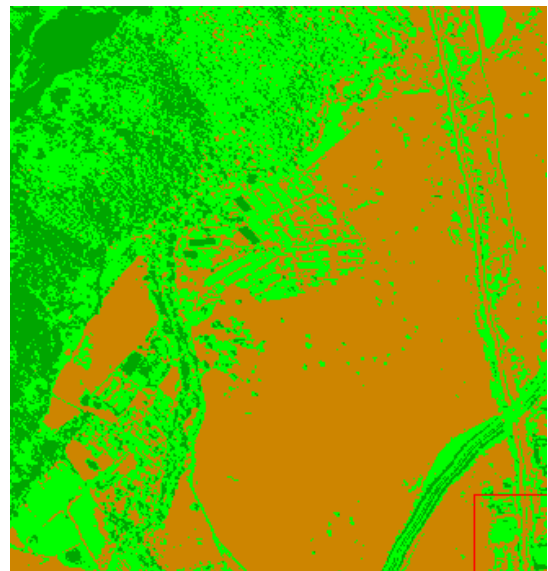
Solution

The client turned to Intetics, which has many years of experience working with GIS technologies and remote sensing data processing and analysis. To produce the map, Intetics began by classifying land cover based on function. Intetics team processed remote sensing data (multispectral and hyperspectral images) using spectral analysis methods and supervised and unsupervised classification methods for land use assessment. Several approaches of classification were used to analyze spectral characteristics of the imagery and to produce classes with similar land cover types. Areas with known and unchanged land cover types were used for classification training and final assessment of the outcome. For high quality results, smoothing and aggregation filters were used to remove image noise. Finally, geometric parameters were calculated to evaluate the land use statistics such as area and cover type percentage *(sample image on the right.)*

CLASS_NAME	AREA	PERCENT
Unclassified	0.00	0.000000
Environmental and recreational areas	109522.00	35.651693
Agricultural lands	109921.00	35.781576
Land unclassified land use purpose	87757.00	28.566732

Land use purpose unclassified
Agricultural lands
Environmental and recreational areas

Results

Due to working with Intetics our client was able to monitor and manage land use more effectively. They received up-to-date, interactive land use maps, completed using remote sensing methods that delivered highly accurate results alongside cost efficiency. Our client can use this tool for improved land monitoring with statistical reports that exactly detail land use coverage and resources. Our client is also able to share the product with their consumers as an easy-to-use land monitoring tool.

"We are very satisfied with the level of professionalism and the level of accuracy we received from Intetics. The product has tremendously simplified land monitoring and reporting and made interaction with our users easier."