

# CASE STUDY

**CUSTOMER:**  
**USGS (United States Geological Survey)**

**SOLUTION:**  
**National Land Cover Visualisation and Analysis Tool**

*"The National Land Cover Dataset has to date been a largely untapped resource. It contains a host of information useful to managers of public and private lands, urban planners, agricultural experts, and scientists alike. Making it easily accessible over the web and showing changes over time opens the potential of this rich dataset to wider audience"*

Barbara Ryan,  
 USGS Associate Director  
 for Geography

## New web based tool provides enhanced access to the USGS National Land Cover Dataset from any web browser.

Developed using eSpatial's iSMART® product suite, the system provides an intuitive web interface enabling users to selectively view and analyse the nationwide National Land Cover Dataset (NLCD) over the Web.

### Introduction:

Jointly developed by USGS and eSpatial the USGS Land Cover Visualisation and Analysis Tool allows users to visualise, in specific detail, how land cover has changed over time. The web-based system provides an intuitive interface enabling users to selectively view and analyse land cover data for the entire United States from any web browser.

### Background:

Land cover data has been a largely untapped information resource. With increasing population and the challenging prospect of climate change, comprehensive information about the condition of our land, and how it is changing, becomes more and more vital. Land cover, the pattern of natural vegetation, agriculture, and urban areas, is shaped by both natural processes and human influences. Information about land cover is needed by managers of public and private lands, urban planners, agricultural experts, and scientists for studying such issues as climate change or invasive species.

### Not just for GIS Experts!

Designed for use by both expert and non-expert users, the new application incorporates the entire USGS 30m National Land Cover Data repository, which includes nationwide data coverage for the time periods 1992 and 2001. A third dataset, the NLCD Change Product, shows in specific detail how land cover has changed during this time. The interface allows users to easily navigate to areas of interest through the map or by searching a gazeteer of areas of interest. Simple analysis functionality allows reports to be generated showing the aggregate areas of each land cover type within the current map bounds or within a user defined area. The report results can be downloaded in multiple formats - CSV, XLS or PDF.



## Access to the Land Cover Application

The USGS Land Cover Visualisation and Analysis Tool is being tested by USGS with a view to live launch towards the end of 2007. The application is available on a trial basis to gather potential feedback from the user base.

Access to the trial can be requested at: <http://emma.usgs.gov/landcover>

## Why eSpatial and iSMART?

The National Land Cover application has been built using eSpatial's iSMART® product.

Based on Oracle® Technology Platform, iSMART is a niche software product for the development and deployment of web based geospatial applications.

iSMART extends the Oracle Technology Platform making it easier & even more cost effective to use by providing rich functionality including access control, analysis, editing, rapid development and central web based administration. iSMART addresses the need to deliver services online, either internally or to the public.

eSpatial has an established history of providing government focused geospatial solutions for its government and commercial clients. By combining the iSMART technology with open standards based IT capabilities, eSpatial clients can deploy applications which increase service levels to their customers and deliver costs effective solutions to a wider (often non-GIS) audience.

## Key Features:

- **Single Nationwide seamless dataset containing land cover and other mapping data**
- **Data is available for any geographic area of the United States from any web browser without the need for specialised GIS software.**
- **Filter specific land cover classes for specific time periods (e.g. view all urban or forest areas in 1990)**
- **Select areas by political, natural, or user-defined boundaries (hand drawn area or specific region e.g. State or County)**
- **Calculate land cover statistics within selected areas and print out simple reports**

