

ENVI for Agriculture and Forestry

Many agricultural and forestry problems, such as determining crop health, insect infestations, and drainage patterns, have traditionally been approached by performing extensive field work. These challenges can now be solved by deriving information from geospatial imagery. This approach has several advantages, including reduced costs and faster results.

The ENVI family of image analysis software offers a full suite of tools to extract all types of vegetation-related information from any type of imagery. And, ENVI can be easily customized to solve your unique challenges, making it a highly flexible solution for agricultural and forestry applications.

ENVI easily integrates into GIS workflows, allowing you to quickly and accurately view, manipulate, process, and analyze imagery. Because ENVI products are tightly integrated with ArcGIS®, you can easily exchange data and layer files between the software packages, saving you time and effort.

Image Analysis Solutions for Agriculture and Forestry

MAP AND MONITOR LAND COVER OR LAND USE

Vegetation indices in ENVI can be used to detect greenness, light use efficiency, canopy nitrogen, dry or dead vegetation, specific pigments, and canopy water content. Tools in ENVI are designed to identify areas in agricultural fields that are under stress and need your additional attention. Additional tools can identify pest and blight conditions and assess areas of timber harvest.

MAP AND MONITOR THE EFFECTS OF CLEAR CUTTING OR DEFORESTATION

ENVI and geospatial imagery can help you to determine the effects of clear cutting and deforestation. ENVI can also be utilized to map and assess forest health by analyzing mature, thinned, cleared, and regenerating forests.

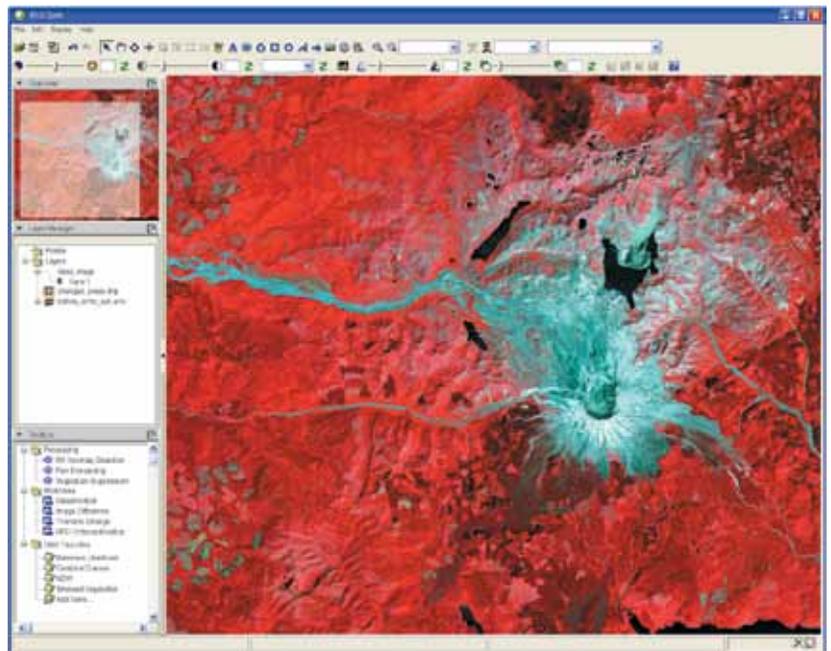


Fig. 1: ENVI provides intuitive, automated tools for performing advanced processes on hyperspectral, multispectral, and panchromatic data to visualize agriculture and forest regions.

MAP SPECIES, FOREST COVER, OR CROP TYPES

Using ENVI and spectral imagery or repeated imagery over a growing season, you can create accurate maps of vegetation species and cover types. The flexible tools and extensive library of vegetation indices found in ENVI can be applied to multi-temporal or hyperspectral imagery to create vegetation maps on scales ranging from species to ecosystems.

MAP AND ASSESS FIRE HAZARDS OR BURN AREA

Specific tools in ENVI were developed to map the distribution of fire fuels and burn hazards using imagery. ENVI also has additional tools to help you assess and map vegetation damage caused by fires and extreme weather events.

IDENTIFY AREAS OF VEGETATION STRESS OR DISEASE

Vegetation indices in ENVI can measure agricultural productivity and identify stressed vegetation from spectral imagery. An agricultural stress tool can help you find areas of dry or dying crops by looking for signs of poor nitrogen and light use. A forest health tool can be useful for identifying pest and blight conditions and assessing areas of timber harvest.

DETECT AND MONITOR CHANGES OVER TIME

ENVI has a variety of tools for automatically detecting changes at various scales, ranging from ecosystem to leaf. These tools are appropriate for detecting all types of change, including urban encroachment on forests, disease progression, deforestation, and seasonal changes.

MAP BIOMASS

ENVI products can use hyperspectral imagery to determine vegetation indices and create maps of biophysical properties, such as vegetation cover, leaf area index, net primary productivity, and total biomass accumulations. You can also use ENVI with radar and lidar data to map biomass in various ecosystems.

ENVI delivers accurate, scientifically proven processes, so you can easily use geospatial imagery to solve your agricultural and forestry challenges.

To learn more about ENVI, ENVI training options, live learning events, and more, visit www.exelisvis.com/ENVI, or call **303.786.9900**.

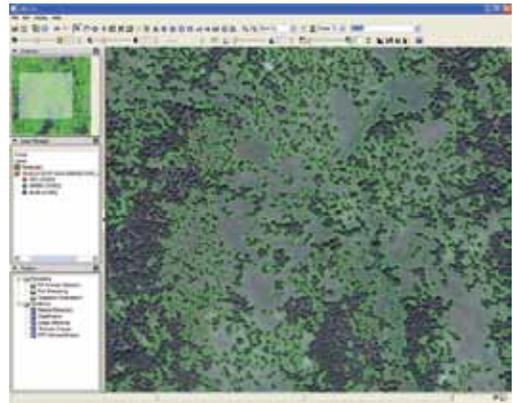


Fig. 2: ENVI is used world-wide by foresters and agriculture professionals to extract critical information from imagery and make more informed, accurate decisions.

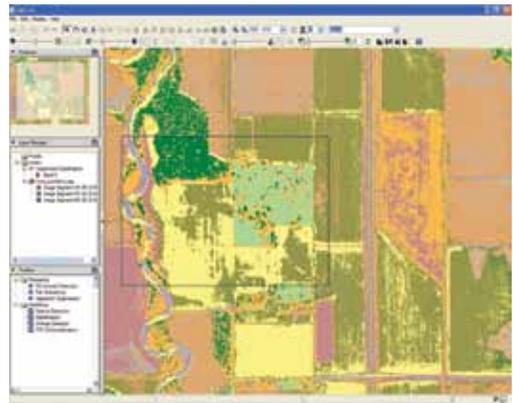


Fig. 3: The image classification tool in ENVI enables you to quickly identify the presence of vegetation and to visualize its level of vigor.

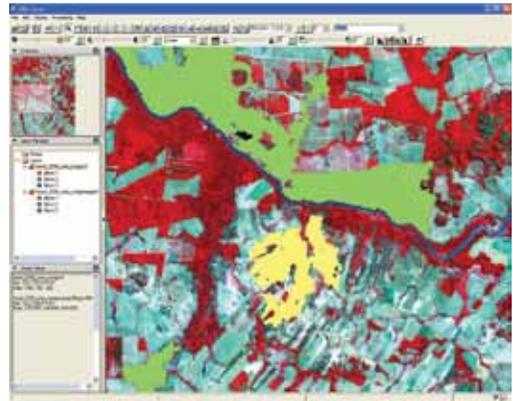


Fig. 4: The forest health tool in ENVI can be useful for identifying pest and blight conditions and assessing areas of timber harvest.



EXELIS

Visual Information Solutions

All rights reserved. ENVI and IDL are trademarks of Exelis, Inc. All other marks are the property of their respective owners. ©2011, Exelis Visual Information Solutions, Inc.