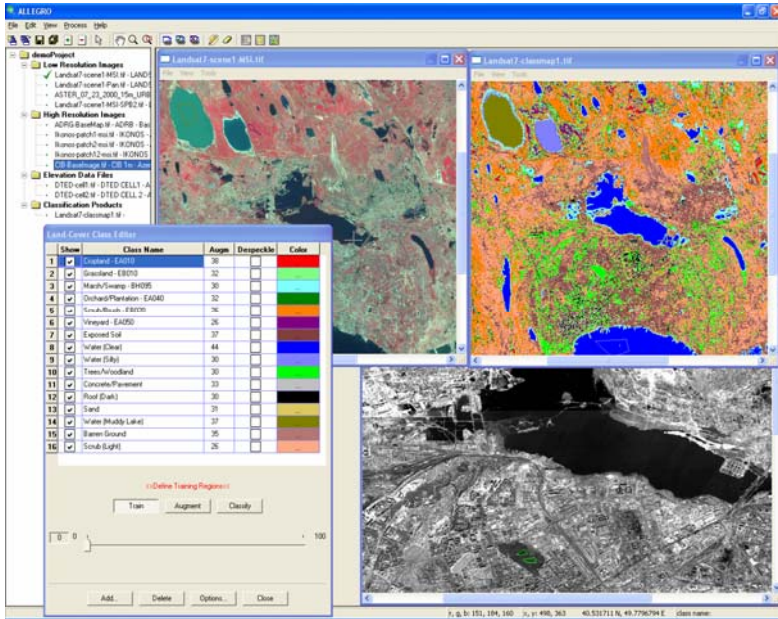


ALLEGRO

Advanced Land-cover, Land-use Extraction for Geospatial Region Operations



Screenshot of the ALLEGRO Application

The ALLEGRO software was designed to put the expertise of imagery scientists into the hands of inexperienced users ultimately enabling them to generate accurate and useful LCLU classification results.

Users are provided the capabilities to improve spatial resolution, increase classification accuracy, geographic accuracy, and classification level through simple-to-use menus and tools.

ALLEGRO currently runs on any Microsoft Windows™ operating system however it was developed using cross-platform software technologies so it can be readily ported to other

ALLEGRO is a prototype software application that enables inexperienced field operators to create consistent, high-quality land-cover/land-use (LCLU) products from medium resolution, large footprint, multi-spectral satellite imagery such as LANDSAT and ASTER. The ALLEGRO software is an intuitive, workflow-based application that integrates a number of unique technologies developed by Observera with optimized work-flow methods for increased quality of the LCLU results and efficiency of production.

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Observera

To See the Truth!

ALLEGRO FEATURES

- Automated preprocessing for resolution enhancement, atmospheric correction and terrain illumination correction
- High-resolution patch selection utility
- Fully interactive image viewing windows with panning and zooming
- Tools for defining and editing training classes that display automatically on multiple, coincident image windows
- Interactive training set augmentation
- Automated training set pruning
- Maximum Likelihood classification techniques

The ALLEGRO software integrates a number of unique technologies developed by Observera. Among them are the Statistical Prediction of Bands (SPB) and Spatial-Spectral Bootstrapping (SSB). These advanced technologies were developed to help overcome several of the major limiting factors associated with LCLU classification such as mixed pixels, comparable spectra, data variance, and training set errors. Statistical Prediction of Bands is a data fusion technique that combines high resolution panchromatic data with lower resolution multi-spectral data to improve the image resolution while retaining its spectral qualities. This allows a much higher accuracy and resolution of the LCLU products. Spatial-Spectral Bootstrapping is a semi-automated workflow methodology designed to make it easy for inexperienced users to define high-quality training sets in conjunction with high spatial resolution inputs such as IKONOS or QuickBird imagery. The result is significantly better class definitions and, hence, improved classification accuracy.

DEVELOPMENT STATUS

The ALLEGRO software is a prototype application that has been funded by the US Army through the Small Business Innovation Research (SBIR) program. We have successfully transitioned through Phase I and Phase II requirements. Observera is seeking new application opportunities. We are confident that the technologies we have developed can be expanded to work with additional imaging systems, as well as integrated into other branches of the service. Please feel free to contact us if you are interested in applying ALLEGRO's technologies to your mission.

