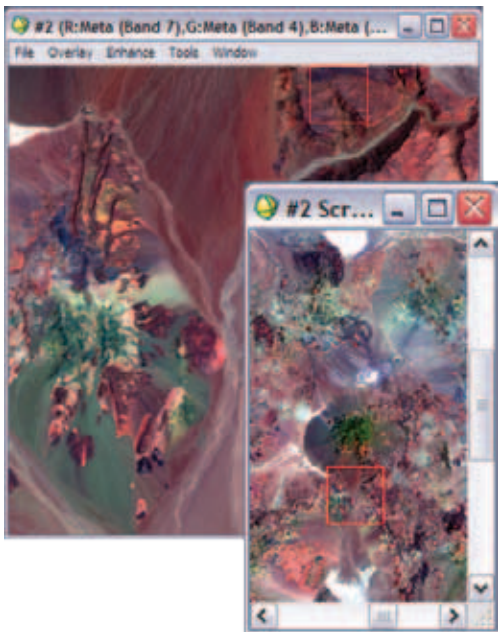


ENVI Atmospheric Correction Module

Correct even the most challenging atmospheric conditions.



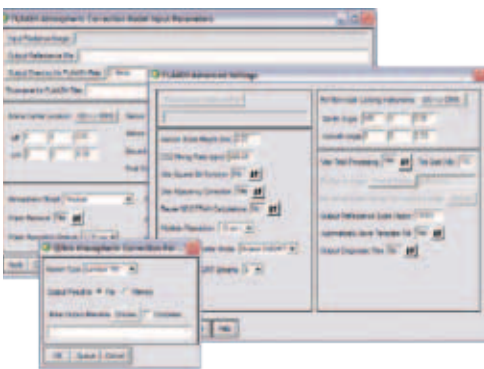
In the field of image analysis, you need an accurate representation of a land area, whether you're analyzing vegetation, locating an object, or detecting change in an area over time. Deriving accurate results is challenging as most remotely sensed imagery contains "noise" caused by atmospheric particles that can obscure the image and make quantitative analysis unreliable.

ACCURATELY CORRECT FOR ATMOSPHERIC CONDITIONS

The ENVI Atmospheric Correction Module allows you to easily remove atmospheric interference from your imagery, providing you with data that is accurate and reliable. Compared with other tools that offer pre-calculated models based on generic atmospheric conditions, the ENVI method treats each image and its atmospheric imprint individually, creating a unique model every time that is a true, reliable representation of a specific image scene. This add-on module to ENVI delivers a flexible solution with the accuracy and scientific detail you need, regardless of your application.

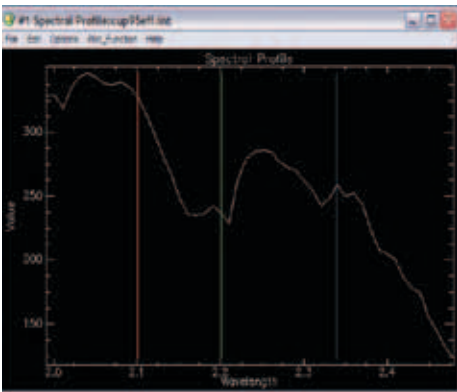
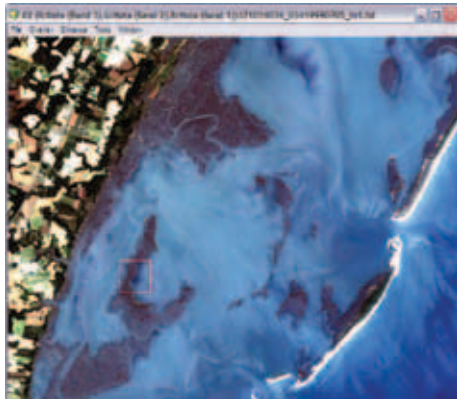
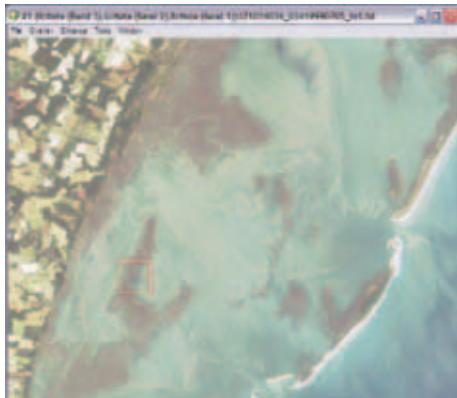
ADVANCED METHODS AND ALGORITHMS

The ENVI Atmospheric Correction Module provides different analysis options depending on your specific needs, ranging from the advanced, physics-based technique in FLAASH, to the on-the-fly QUAC method for use in real time data processing.



To get an accurate representation of an area of interest, the ENVI Atmospheric Correction Module removes atmospheric noise. Easy to use dialog boxes walk you through the process.

FLAASH (Fast Line-of-Sight Atmospheric Analysis of Spectral Hypercubes) is a first-principles atmospheric correction tool that corrects wavelengths in the visible through near-infrared and shortwave infrared regions. Unlike many other atmospheric correction programs that interpolate properties from a pre-calculated database of modeling results, FLAASH incorporates the MODTRAN4 radiation transfer code. The FLAASH model is highly tunable, allowing the user to define all parameters that influence atmospheric absorption and scattering such as relative solar position, atmospheric, aerosol, and scattering models, visibility parameters and more. FLAASH can also account for such atmospheric influences as adjacency effects, artifact suppression, and gives you access to aerosol and water vapor retrieval. FLAASH provides unparalleled accuracy and robustness, assuring you that your data are finely calibrated.



QUAC (Quick Atmospheric Correction) is an in-scene approach to atmospheric correction and determines parameters directly from the information contained within the scene using the observed pixel spectra. The QUAC method introduces a user-friendly interface and is easier to use than FLAASH, yet still produces reflectance spectra (results) that are extremely accurate. QUAC enables the retrieval of reasonably accurate reflectance spectra even when the sensor does not have a proper radiometric or wavelength calibration, or when the solar illumination intensity is unknown. The computational speed of the atmospheric correction method is significantly faster than for the first-principles methods, making it potentially suitable for real-time applications on aircraft and spacecraft.

Both methods in the ENVI Atmospheric Correction Module work with multi and hyperspectral data and support a wide array of common sensors through the visible and shortwave infrared.

THE ENVI ATMOSPHERIC CORRECTION MODULE PROVIDES:

- A distinctive data polishing technique for realistic representations
- An adjacency correction method to fix images with high contrast areas that produce “mixed signatures” or artifacts
- A highly adjustable interface for fine tuning conditions during data capture to achieve very accurate results
- A method that treats each pixel individually
- A very fast option for real time processing or for situations when you don't have the atmospheric conditions at the time of capture

Because not all atmospheric tools are created equal.

Correct atmospheric conditions in your imagery today.
Learn more about the ENVI Atmospheric Correction Module at www.exelisvis.com/ENVI or call 303.786.9900.



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