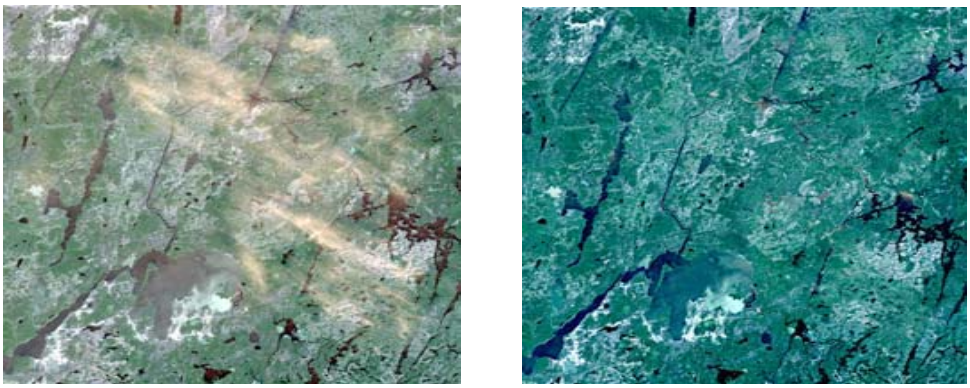
Atmospheric Correction

FACT SHEET

See the World's true colors with Geomatica®! Variations in the Earth's atmosphere and terrain modify the spectral characteristics of satellite imagery. Atmospheric correction eliminates atmospheric and terrain effects and retrieves physical parameters of the Earth's surface, including: surface reflectance, emmisivity and temperature. Such correction is especially important in cases where multi-temporal, multi-sensor, or multi-condition images are compared and analyzed.

PCI Geomatics' Atmospheric Correction capabilities provide easy-to-use atmospheric correction for a wide variety of satellite sensors including: QuickBird, IKONOS, ASTER, SPOT, and Landsat.

The package includes ATCOR2, for the correction of images in flat areas, and ATCOR3, for the correction of images in areas with rugged terrain.



Landsat 7 Imagery Before and After Atmospheric Correction

Features and Benefits of Atmospheric Correction with Geomatica

- Easy-to-use processes are available in GUI, visual modeling, and command-line environments
- 'Real' reflectance values are obtained by removing or greatly reducing atmospheric and terrain effects
- Create razor-sharp imagery
- Perform multi-temporal, multi-sensor, and multi-condition comparisons
- Generate value-added products, such as Normalized Difference Vegetation Index (NDVI), Soil Adjusted Vegetation Index (SAVI), and Leaf Area Index (LAI) vegetation indices
- Calculation of surface temperature

Atmospheric Correction in Geomatica

The atmospheric correction functionality available in Geomatica is both easy-to-use and flexible. An intuitive step-by-step GUI makes the generation of atmospherically corrected imagery and value added products easy.

Atmospheric correction is also available through visual and command line scripting environments. The flexibility offered through these environments enables batch processing and customized atmospheric correction workflows.

Determination of Atmospheric Disturbances

An important step in atmospheric correction is the determination of image areas affected by atmospheric disturbances. Geomatica includes

both automated algorithms and manual tools for determining cloud and haze affected areas.

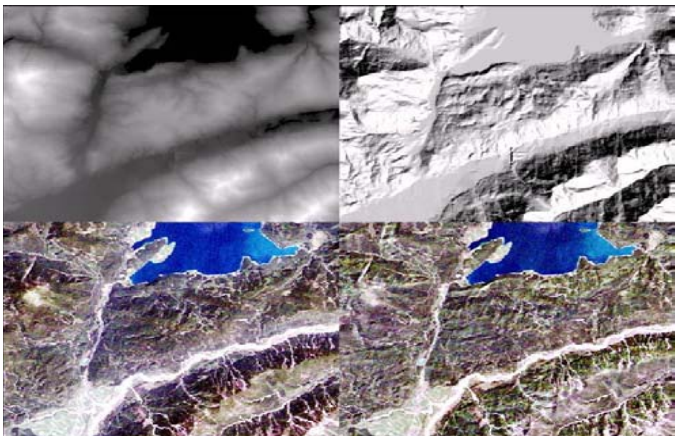
Geomatica also includes normalized atmospheric calibration files for a variety of sensors and environment types, allowing you to quickly apply atmospheric correction to your data.

ATCOR2

ATCOR2 is designed for the atmospheric correction of imagery covering flat terrain areas. No elevation information is required for ATCOR2 atmospheric correction.

ATCOR3

Designed for areas with rugged terrain, ATCOR3 uses a digital elevation model (DEM) as input in the atmospheric correction process.



ATCOR3 Atmospheric Correction

Value Added Product Generation

The Geomatica Atmospheric Correction package offers more than just atmospheric correction. Get more information from your imagery by generating value-added information, such as LAI, SAVI, Surface Albedo, surface temperature, and more.

Licensing

Atmospheric Correction is part of Geomatica Core.

Distributed by:

PCI Geomatics Headquarters
50 West Wilmot Street
Richmond Hill, Ontario
CANADA L4B 1M5

Phone: 905 764-0614
Fax: 905 764-9604
Email: info@pcigeomatics.com
Web: www.pcigeomatics.com

Updated: 2/20/2009