Highlights

New! Geomatica Object Analyst
Add-on package for segmentation, classification and feature extraction
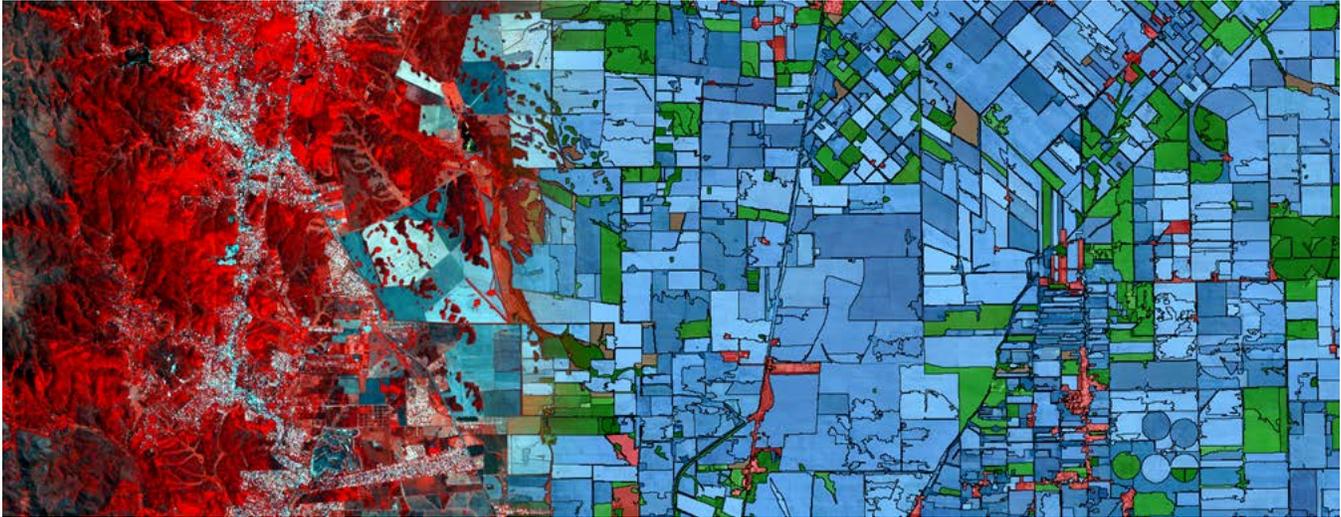
Example results showing segmentation and classification of satellite imagery

Easy-to-learn and easy-to-use

A dedicated interface within Geomatica Focus guides you through segmentation, feature extraction, creating training sites, classification (including creating custom rules), reforming shapes, and accuracy assessment. This flexible package lets you quickly set-up your process and start generating results.

Automatically grow homogenous regions

We've developed a brand-new image-segmentation algorithm to delineate homogenous regions based on statistical region-growing. Plus, manual edits are as simple as point-and-click.

Fast, simple, feature extraction

Quickly and easily extract statistical and geometrical features for polygon segments. Because the process is not limited to input scale and cell size, it works on a wide variety of image resolutions and data ranges.

Advanced analysis included

Object Analyst uses the machine-learning Support Vector Machine (SVM) method and traditional MLC for supervised classification of vector objects. K-means algorithms are also used to cluster data.

Define your own classification rules

You can create custom classification rules that suit your data and analysis needs, or use any of the predefined algorithms.

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Highlights

New: Geomatica InSAR

Add-on RADAR package for land subsidence and uplift measurement
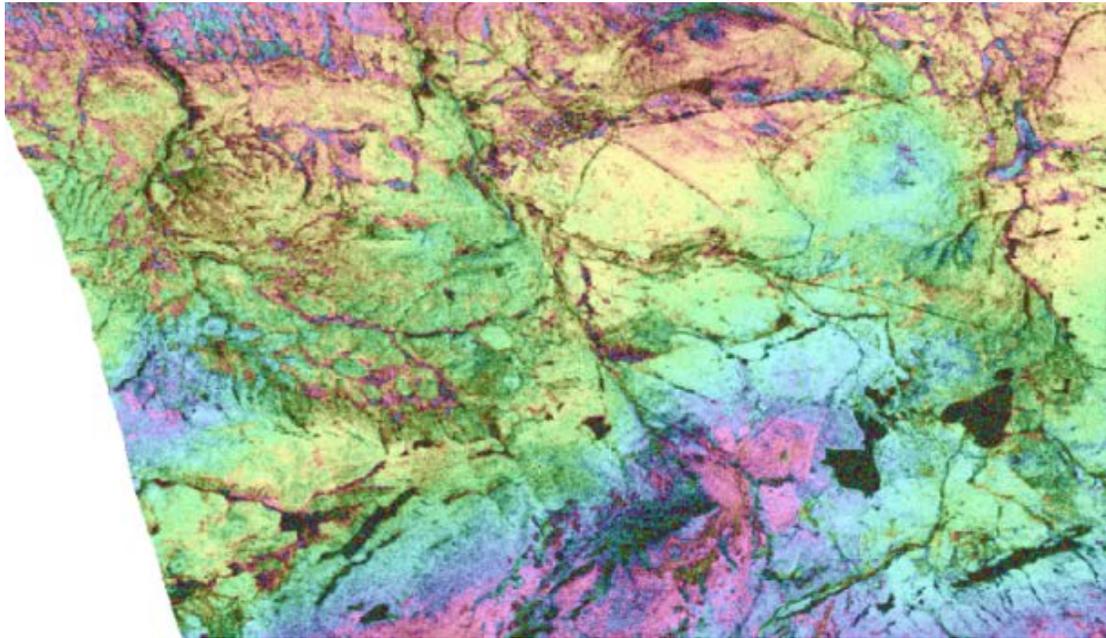
Deformation Product with interferometric fringes due to small changes in elevation

Designed to make processing and operations easier for both experts and non-SAR experts alike

Each step is designed to be flexible, intuitive and executed either independently or in sequence, with default values to aid automation.

End-to-end, interferometric processing, temporal analysis, and visualization capability

Generate topographic products to characterize digital surface models (DSMs) or deformation products, which can be used to identify subtle changes in surface elevation due to land subsidence.

Suitable for a wide-range of industries

Monitor surface-change due to mineral and water extraction, oil and gas extraction, glacial rebound, volcanic activity and landslides. Geomatica InSAR products can also be used to monitor the integrity of urban infrastructure and transportation networks, including bridges, roads, rail and pipelines.

Everything you need for time-series analysis

Emphasis is placed upon the generation of multiple layers of deformation products which can be easily co-registered into temporally ordered stacks for long term analysis of subsidence patterns.

More Highlights

OrthoEngine

The 2017 release includes a number of updates within OrthoEngine, all designed to make users more productive and allow easier project management.

Project Overview

- Improved point display, image thumbnails and reference image backdrops make it easier to see how your project fits together.

Residual reports and editing

- New control over the information reports, along with residual point classification tools improve quality control for bundle adjustment and complement faster model calculations.

Other improvements

- GCP import
- Kappa editing
- Project set-up

Mosaicking

In Geomatica 2017 the MOS* mosaicking functions and the Mosaic Tool include the capability to mosaic multi-resolution data.

Aerotriangulation

Improved tie-point collection

- New capabilities have been added to the automatic tie-point collection which now collects more multi-ray points that are better distributed over the imagery.

Point refinement

- New functions for blunder detection and point thinning have been added.
- Blunder detection and point thinning can be run prior to the point refinement workflow.

DEM Editing

New editing tools have been added, including the creation and use of breaklines and stabilization points.

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Sensor Support Updates

The following sensors are newly supported:

- PlanetScope: L3A/3B support including data visualization and atmospheric correction
- TeLEOS-1: L1/2 data visualization and orthorectification support
- ZY3-2: TIFF/RPC full support

The following sensors have upgraded support:

- CBERS-4: Atmospheric correction now supported
- Pleiades: Additional support for "projected" product type
- Rapid-Eye: Additional support for "Planet" version of product, including new data levels
- Sentinel-2: Atmospheric correction now supported for Level 1C
- TH-01: Pan-sharpening and DEM extraction now supported
- Kompsat-5: New GeoTIFF distribution format supported

The following sensors are suitable for InSAR processing:

- Fully supported for interferogram generation and analysis:
  - RadarSat-2
  - TerraSar-X
- Interferogram generation only:
  - Cosmo-SkyMed
  - Kompsat-5
  - PALSAR-2
  - TANDEM-X

Details on improvements and new capabilities

The following functions have been added in Geomatica 2017:

ADS functions

- ADSCOPYCORR: For copying model-correction terms from one segment to another, specific to the Leica Airborne Digital Sensor (ADS)
- ADSL0TOL1: For converting ADS products from Level 0 to Level 1

DEM functions

- DEMADJUST: For raising or lowering a raster DEM so that it better fits vector elevation reference points

- EPIPOLARDSM: For creating a raster digital surface model (DSM) from epipolar stereo pairs using the Semi-Global Matching (SGM) method

InSAR functions

- INSADJUST: For adjusting interferometric phase for baseline offset and orbital drift errors

- INSCALDEFO: For adjusting unwrapped displacement values to zero at all points in a vector layer

- INSCOREG: Automatically co-register and resample the dependent file to the reference file

- INSINFO: Generates a text file of the sensor and interferometric parameters for the given reference and the dependent file configuration(s)

- INSRAW: Required to produce the raw interferogram using the specified reference file and the resampled dependent file generated by the INSCOREG module

- INSSTACK: Converts a number of co-registered SAR interferograms, or terrain displacement channels derived from them, into a time-ordered stack of interferometric phases, ground velocities or displacements

- INSTOPO: Adjusts the phase of a raw interferogram to compensate for flat earth and topographic effects

- INSUNWRAP: Unwraps the interferometric phase by performing a two dimensional integration of the wrapped phase values to generate the unambiguous phase.

OrthoEngine functions

- OEBLUNDER: Automatically detects and removes blunders in images, tie points and ground control points in Geomatica OrthoEngine project files

- OEPNTTHIN: Removes redundant tie points and ground control points from OrthoEngine project files

- RECALC: Recomputes the math model of an existing OrthoEngine project and writes the result to the output OrthoEngine project file

- RMPROJ: Delete an existing OrthoEngine project file

User Feedback and Requests

As a standard part of any PCI software release, we have spent a great deal of time modifying the Geomatica environment and its processes based on direct customer feedback. Over 100 customer-requests have been addressed in the Geomatica 2017 release.