

Geomatica 10.0.3

PCI Geomatics is pleased to announce the release of Geomatica version 10.0.3, an update with significant enhancements to the Geomatica 10 suite. In addition to fixes of customer-identified bugs, this update includes many new features, along with improvements in the reliability, performance, usability, and functionality of Geomatica 10.

Supported Platforms

- Windows 2000, Windows 2000Server, Windows 2003Server, Windows XP
- Linux SUSE 9.3, Red Hat Workstation 4
- Solaris 8, 9, 10

Licensing and Installation

- To install Geomatica V10.0.3 Update, Geomatica V10 must be previously installed and licensed
- The Geomatica V10.0.3 Update does not require new licensing

New Features in Geomatica 10.0.3

Major improvement in automated mosaicking

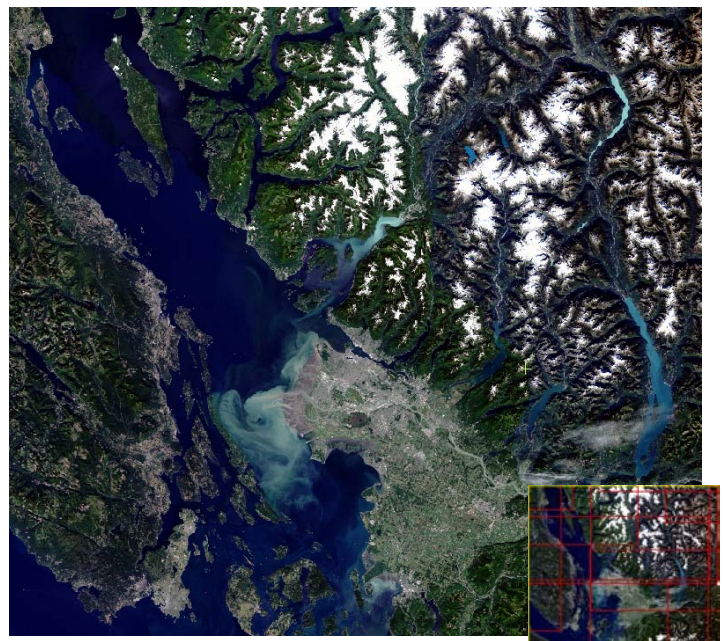
Automatic mosaicking is the automated digital assembly of adjacent images (air photos or satellite imagery) used to create one seamless image. In Geomatica 10.0.3, PCI has introduced a new level of intelligence to the automated mosaicking process, providing you with more flexibility, more robustness, and higher quality results. The new features in color balancing include:

Reference image for histogram color balancing

This feature matches the orthorectified image to a master reference image for histogram color balancing. The algorithm calculates the color balancing for each input image to best fit the reference image and outputs the look up tables (LUTs) (one per channel) that describes the adjustment required.

Using a reference image is suggested for very large area mosaics (e.g., entire countries) because it reduces the negative impact of large differences in radiometry from one area to the next. Furthermore, it reduces the effects of small errors accumulated over a large area with numerous images.

Figure A. A subsection of Vancouver Island and coastal British Columbia (Canada). Inset: multi-spectral footprints of original ortho LandSat7 images overlaid on mosaic output.



Enhanced overlap color balancing algorithm

PCI has improved the overall color balancing algorithm used in the automated mosaicking process. The algorithm produces a high quality result and works up to 10 times faster than its previous versions! While the algorithm's exact characteristics are proprietary, the color balancing capability has received international recognition for producing superior quality results!

User-specified color blend parameter

With past versions of the auto-mosaicking operation, users were able to specify the color balancing method and the trimming range of the histogram, as well as being able to apply a mask as an input parameter. In Geomatica V10.0.3, a new color-blend-width parameter has been incorporated into the process thus providing the user with more control. The user can specify a blend-width value for all cutlines in the project to indicate the distance (in pixels) of feathering or smoothing around cutlines. This ability reduces the radiometric differences from one image or photo to another.

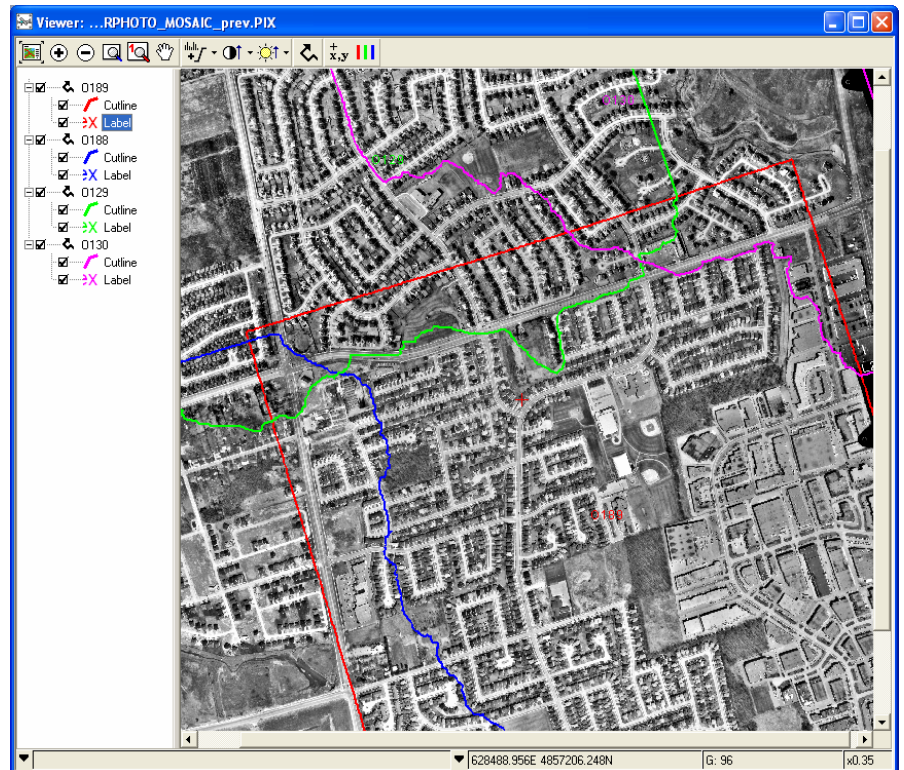
Adaptive filter

Depending on the orthoimage quality, applying an adaptive filter can offer a significant improvement in the color balancing result. The algorithm calculates and applies a localized contrast and brightness enhancement to the image. This enhancement can balance the brightness variation over an entire image that has both bright and dark areas. The Adaptive filter is particularly useful tool for auto-dodging and vignetting correction in airphoto applications.

Enhanced preview window for new cutline viewing

A mosaic cutline is a vector that outlines the portion of an image that are to be mosaicked into a mosaic file. For Geomatica V10.0.3, we have enhanced the preview window to allow a user to better identify the location of the cutlines for each image, and consequently to assess how well the color balancing has been performed. The new Mosaic Preview Window is a Focus-style window with a tree list allowing full control of each cutline polygon (its visibility and color), along with corresponding labels to provide easy identification of each cutline in the Mosaic Preview Window. These new features complement the existing navigational functionalities (zooming and panning) that are already part of the preview window.

Figure B. Mosaic Preview window displaying cutline polygons generated from automated mosaic operation.



Auto-registration enhancements

The algorithm used in OrthoEngine's auto-registration operation has been replaced by an improved version. The improved algorithm can better handle image variability and delivers higher matching correlation results. This algorithm has also been proven to operate faster than the previous one. With these new enhancements, users can efficiently perform an automated collection of accurate Ground Control Points (GCPs) for their image registration.

Resampling raster data

PCI now offers an easy-to-use, effective tool for resampling data. The resample algorithm increases and decreases the resolution of all raster input (e.g., imagery, raster grids, and bitmaps) and simply transfers other segment types from the input file to the output file. You can resample any raster data in a GDB-supported file format.

Schedule your batch processing

The ability to schedule an automated batch process has been the Modeler environment (PCI's powerful visual-scripting environment). It is now possible to set a time to run a process, allowing users to appropriately allocate hardware resources to satisfy project schedules. The batch scheduler works in a similar fashion to the scheduling of mosaicking processes in OrthoEngine.

Improved bitmap support in Focus

With the Geomatica 10.0.3 release, it is now possible to apply unsaved bitmaps (stored in memory), primarily used as masks in image processing operations, in the Scatterplot and Filter panels in Focus.

Shortcut keys for vector editing

Keyboard shortcut keys increase productivity by allowing users to easily access common functionalities without the need to access commands from a menu or a toolbar. Geomatica Focus users will benefit from the intuitive shortcut keys for vector editing - whether they want to merge a polygon, split a line, add vertices, and so on - these commands will be at their fingertips!

Geomatica V10.0.3 is now available in Chinese

All of Geomatica's graphical user interface (GUI) application environments are now available in Chinese, adding to our repertoire of English, French, and Spanish language support.

The Chinese environments can be enabled through the Geomatica desktop icon. Simply right-click on the icon to access the Properties panel, and change the Target field as follows to enable the desired language:

```
"C:\Program Files\Geomatica_V100\exe\geomatica.exe" -language Chinese
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