



HEXAGON
GEOSPATIAL

ERDAS IMAGINE 2014
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For more information, visit www.hexagongeospatial.com (www.hexagongeospatial.com and www.hexagon.com) and www.hexagon.com (<http://www.hexagon.com>).

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About this Release

This document describes the enhancements for ERDAS IMAGINE 2014 Minor Release 1, including IMAGINE Photogrammetry (formerly LPS Core) and ERDAS ER Mapper. Although the information in this document is current as of the product release, see the [Intergraph Support website](#) for the most current version.

This release includes both enhancements and fixes. For information on fixes that were made to ERDAS IMAGINE for this release, see the Issues Resolved report on the [Intergraph Support website](#) for a specific product.

This document is only an overview and does not provide all of the details about the product's capabilities. See the online help and other documents provided with ERDAS IMAGINE for more information.

ERDAS IMAGINE®

ERDAS IMAGINE® performs advanced remote sensing analysis and spatial modeling to create new information. In addition, with ERDAS IMAGINE, you can visualize your results in 2D, 3D, movies, and on cartographic-quality map compositions. The core of the ERDAS IMAGINE product suite is engineered to scale with your geospatial data production needs. Optional modules (add-ons) providing specialized functionalities are also available to enhance your productivity and capabilities.

- **IMAGINE Essentials®** is the entry-level image processing product for map creation and simple feature collection tools. IMAGINE Essentials enables serial batch processing.
- **IMAGINE Advantage®** enables advanced spectral processing, image registration, mosaicking and image analysis, and change detection capabilities. IMAGINE Advantage enables parallel batch processing for accelerated output.
- **IMAGINE Professional®** includes a production toolset for advanced spectral, hyperspectral, and radar processing, and spatial modeling. Includes ERDAS ER Mapper.

New Platforms

Please refer to the Supported Environments document for full details on all platforms supported by ERDAS IMAGINE 2014 Minor Release 1. However some key changes are noted below.

Microsoft Windows 8.1

The official release version of Windows 8.1 has now been tested and certified as supported with ERDAS IMAGINE 2014 Minor Release 1.

Stereo Support in Windows 8

Stereo visualization in Windows 8 is now supported for all Stereo enabled ERDAS IMAGINE applications (SPMT, TE, ORIMA, PRO600, Stereo Analyst). For a list of supported graphics cards, refer to system requirements document on the [Intergraph Support website](#)

ArcGIS 10.2

With the Minor Release 1 update, ERDAS IMAGINE 2014 supports being installed alongside ArcGIS 10.2 (or ArcGIS 10.2.1 if running on Windows 8.1) to provide Geodatabase support within ERDAS IMAGINE 2014. Note that this requires the use of an ArcGIS license.

Alternatively, the IMAGINE Geodatabase Support installer can be used to provide Geodatabase support if ArcGIS is not going to be installed and licensed (on any of the Operating Systems supported by ERDAS IMAGINE).

New Technology

ERDAS IMAGINE 2014 Minor Release 1 introduces several new technology areas. The key areas include

- New IMAGINE GeoPalette product
- Several improvements aimed at streamlining common Image Analyst workflows
- New satellite formats and sensor models
- HDF5 support
- Various bug fixes (please refer to the Issues Resolved document for details)

Copy/Paste Picture to a View

A common, daily task required by users preparing reports, maps and other graphics is the need to include photographs and other non-geospatial imagery in the report in order to provide context to the information being presented. The latest release of ERDAS IMAGINE makes this process much easier, for example,

- right-click Copy in Windows Photo Viewer,
- go to a Map View and click Paste to automatically create a new Map Frame containing the copied picture

Alternate Use Cases:

- Drag / drop image file from Explorer to Map View, or
- Drag / drop image file from Explorer to the gray background of the ERDAS IMAGINE window, or
- Copy / Paste selected image from Word to Map View.
- Etc.

As well as Copy / Paste between the IMAGINE Map View and external applications considerable effort has been put into making Drag / Drop more extensive and more consistent in behavior both between components of ERDAS IMAGINE (e.g. between Table of Contents, Retriever ShoeBox, 2D View, 3D View, Map View, etc) and between external application and ERDAS IMAGINE (e.g. drag / dropping from Windows Explorer to a 2D View).

For example, dragging a .gmdx spatial model from the Retriever Shoebox to a 2D View will now start a Spatial Model Editor session and load the model into that session.

Copy/Paste Text to a Map View

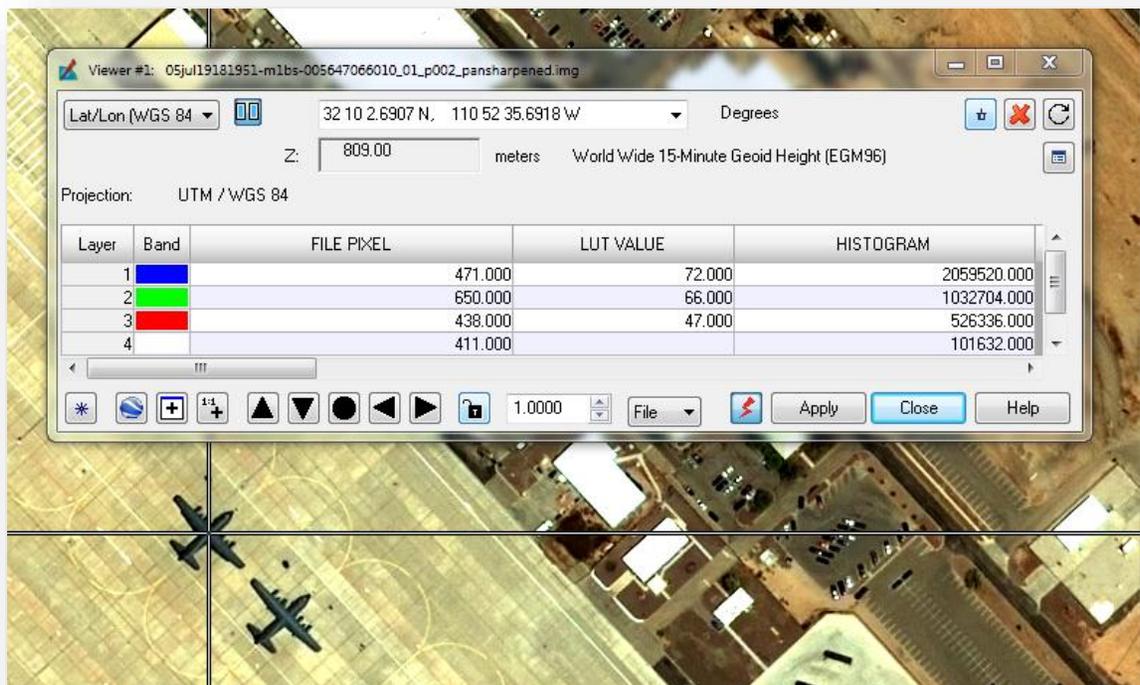
As well as transferring pictures from other applications to Map Views it is also common to want to insert sections of text. This process has been simplified so that you can simply copy a chunk of text from a source application (such as Word), move the cursor to your Map View and paste, without needing to create a text element to receive the text. A text element will be automatically created and the text inserted.

Note that the above works well for shorter sections of text. If you are copying an entire paragraph or multiple paragraphs, it is recommended that you follow this slightly modified workflow if you wish the text to fit into a specific area:

1. Copy the desired text
2. In ERDAS IMAGINE make sure the Map View (or 2D View with Annotation layer) is active and go to the Drawing tab
3. In the Insert Geometry group select the “Insert Text Element” tool (the “A” icon)
4. Drag a box in the Map View defining the area you wish the text to occupy
5. Click Ctrl-V to insert the text

Inquire Cursor Improvements

Several ease of use suggestions made by customers regarding the Inquire Cursor functionality have been addressed by combining the X and Y values into a single field in the dialog.



Doing this has provided several improvements, including:

1. When the coordinate is provided using two separate fields and you wish to **drive to** a specific location in the image, you must enter the X and Y values separately. One significant disadvantage of this is that when the first value of the coordinate pair was entered (such as the X) the Inquire Cursor would attempt to drive to a coordinate consisting of the new X and the old Y. Sometimes this combination would lie outside the extent of the viewing window and so ERDAS IMAGINE would reject the “new coordinate” and return to the old X, old Y coordinate location.

By switching to a single field for the coordinate pair the entire coordinate string can be entered before triggering the Inquire Cursor to drive to that new location, thereby solving the problem of inadvertently driving outside the image extent.

2. An additional significant advantage of the single-field approach is that copying and pasting coordinates becomes much **simpler**. As mentioned above, driving to a specific location previously might have involved copying an Easting and pasting it into the Inquire Cursor and then separately selecting the Northing, copying it and then pasting into Inquire Cursor, thereby requiring multiple mouse clicks.

By using a single coordinate field all that is now required is to select and copy the desired coordinate and paste into Inquire Cursor in a single operation.

3. While moving to a single coordinate field the number of **coordinate formatting** types has been greatly expanded.

For example, Lat/Lon coordinates can now be entered in Degrees, Minutes, Seconds without any spaces between each “field”. So instead of DDD MM SS.SS E it can be entered as DDDMMSS.SSE. Similarly, for longitude values that are only 2 digits, the leading zero can be included or omitted (ODDMMSS.SSE).

This greatly assists when copy/pasting coordinates out of a database or text report where the standard is coordinates with no spaces.

Other improvements in format support include: the ability to reverse the order of the Latitude and Longitude (so long as an E/W or N/S indicator are provided); MGRS coordinates can be entered in “separated” form (e.g. 16S GD 35864 08717); MGRS coordinates with precision less than 1m can be entered (e.g. 16SGD358087); Degree, Minute and Second symbols are now parsed, so a coordinate could be entered in the form 32°10'36.92"N, 110°52'10.16"W.

4. The Inquire Cursor now provides a **Recent list** of coordinates.

This enables scenarios such as loading one image, driving to a specific location of interest using the Inquire Cursor, clearing that image from the view, loading a second image and returning to the location of interest by simply picking it from the Recent list.

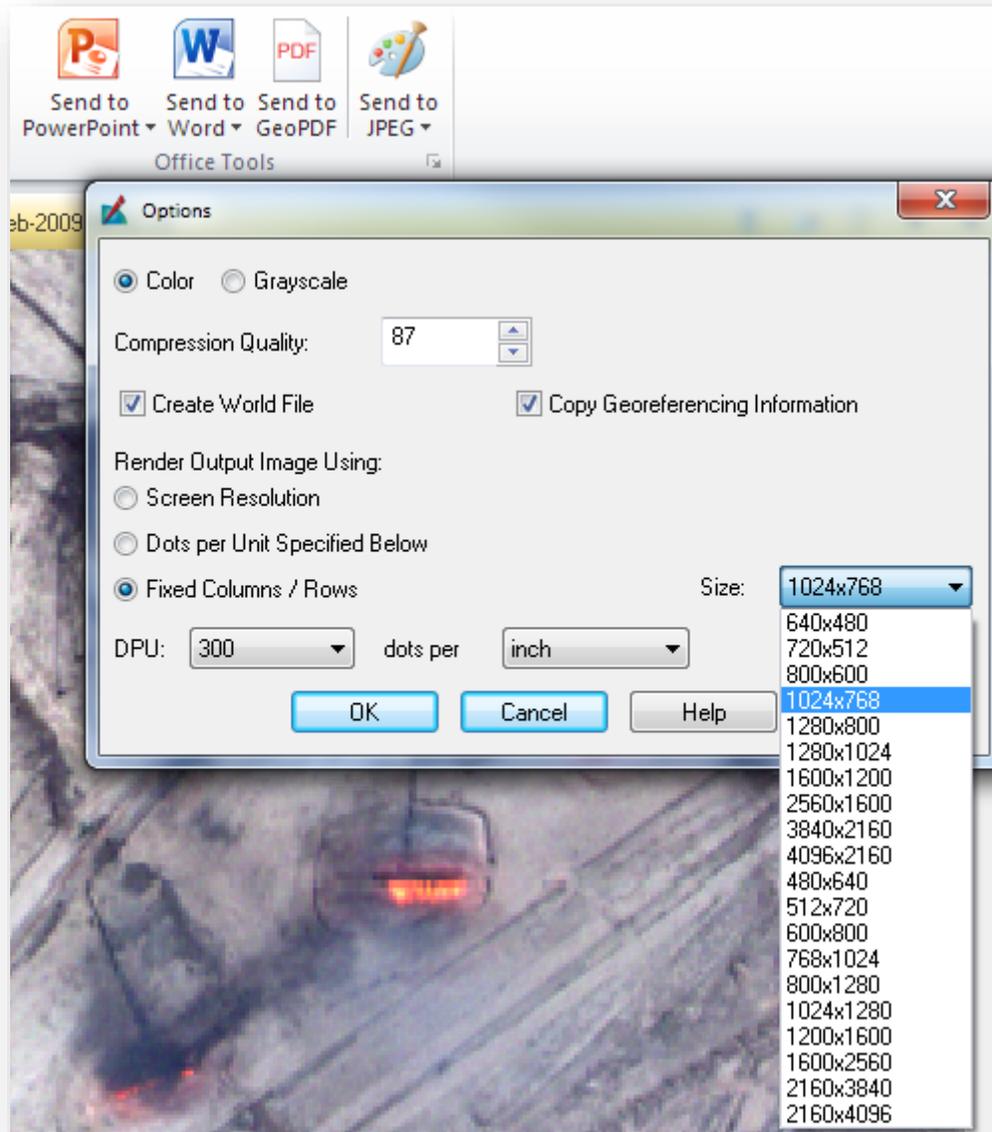
The Recent list is a rolling list of the last n coordinates (25 by default, which can be controlled through Preferences). However specific coordinated can be made sticky if you do not wish them to roll off the list. The list can also be cleared.

5. **Preferences** are now provided for options within the Inquire Cursor, including:
 - a. Coordinate Type, so, for example, **Lat/Lon (WGS84)** can be made the default coordinate usage

- b. Display coordinates in a single field or as two separate fields (for backward compatibility)

Preferences can also be set directly from the Inquire Cursor dialog (rather than having to use the Preference Editor) by clicking the * icon

Fixed Size options for Office Tools / Send to...



With the 14.00.01 Minor Release of ERDAS IMAGINE 2014 onwards the ability has been added to utilize fixed row / column sizes for the images created when using the Send to ... options (Send to JPEG, Send to Word, Send to PowerPoint, etc). This capability was added because the prior method of using the screen resolution would often result in large file size images that were difficult to email or otherwise utilize.

For example, if embedding multiple graphics into PowerPoint slides using the Send to PowerPoint option the resulting slide deck would rapidly increase in size due to the high resolution (and lack of compression) of the graphics. Providing an option to produce fixed row x column size graphics (as well as utilizing JPEG compression) provides a way of keeping overall file sizes down.

ERDAS IMAGINE is therefore now provided with a list of commonly required sizes and aspect ratios (640 x 480, 1024 x 768, etc) for the graphic that is produced (and embedded into a file or other application, such as Word).

However some users may require sizes not provided in the default list. Therefore the Help provides instructions on how to edit the lists in ERDAS IMAGINE to include additional sizes (or to remove unwanted sizes).

Send to GeoPDF

Customers owning the Map2PDF for ERDAS IMAGINE module can now directly Send to GeoPDF the contents of a 2D or Map View.

A 2D View will capture the extent currently displayed in the 2D View, whereas a Map View will create a GeoPDF formatted according to the dimensions of the Map.

Better BIIF profile NITF handling

The NITF raster format handler has been updated to better handle the BIIF profile, especially the OSDDEF (Open Skies Digital Data Exchange Format) profile. When the File Chooser is filtering on Files of Type: NITF 2.x it will automatically list any files with a *.bif extension and enable those images to be selected and loaded.

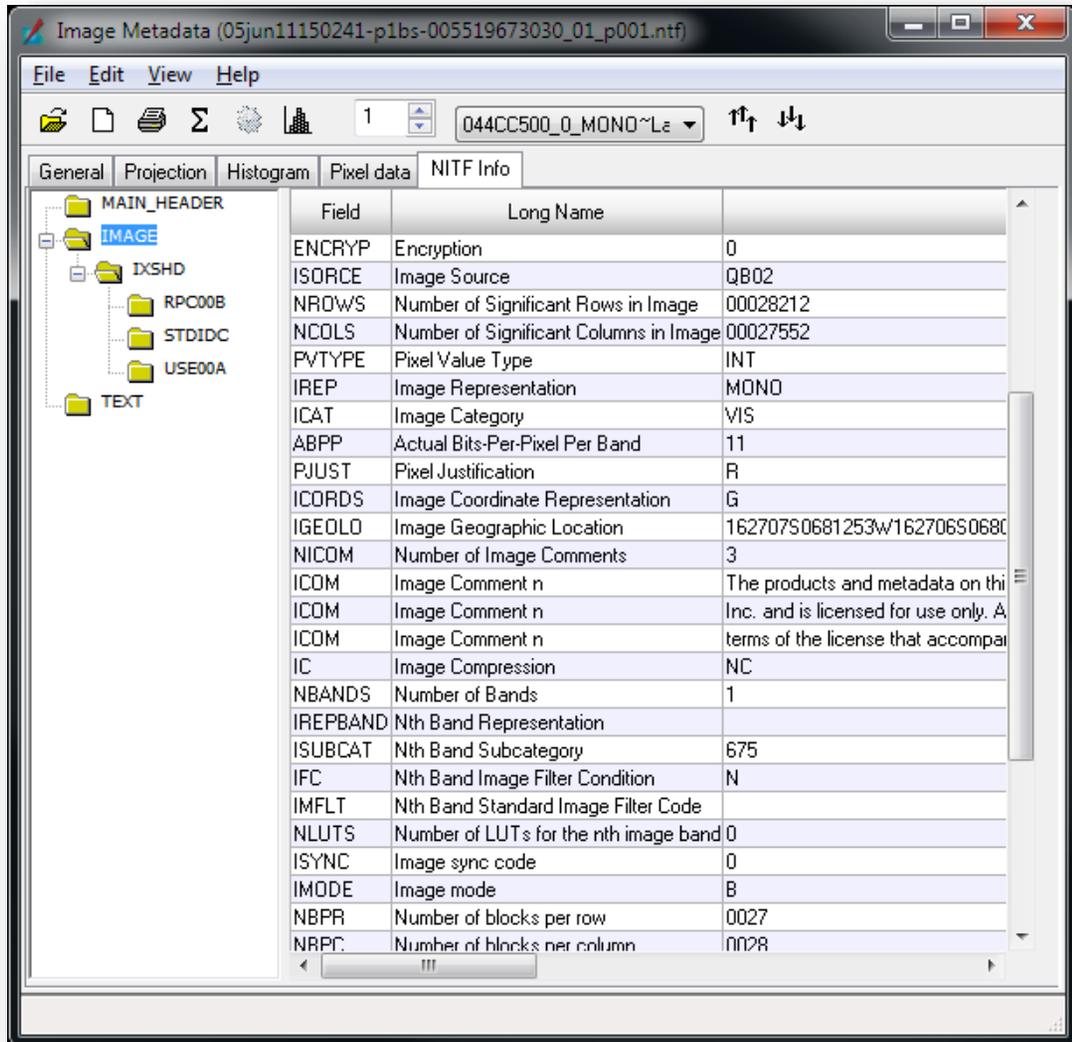
While updating the profile we have also corrected some issues in the NITF handler that were discovered including an incorrect interpretation of Left justified bits (PJUST).

More Raster Formats Supported in 64-bit

Direct reading of all raster file formats available in 64-bit are now supported in 64-bit. Because some 3rd party raster format libraries are not available in 64-bit, these few raster DLLs will continue to run in 32-bit mode. After installing 14.00.01, the customer should run the raster DLL automatic re-configure tool to full advantage of all 64-bit raster DLLs.

Resolve NITF Long Names

NITF Long Names have been exposed in View/Edit Image Metadata, NITF Metadata, and NITF Export dialogs. The official NITF metadata field names are acronyms based on a phrase. These phrases are known as NITF Long Names. These long names are more descriptive than the official NITF field names.



Annotation / Map AutoSave message

A long-standing issue has been corrected whereby attempts to annotate imagery and/or create map compositions was accompanied by messages popping up asking if you wanted to save

changes before closing (even though you were not closing anything and might not have made any changes since the last save).

These messages were a result of ERDAS IMAGINE's attempts to perform automatic session saves (for the purposes of crash recovery). Consequently many users turned off the "IMAGINE Session Auto-Save Time" preference to avoid the messages, thereby removing the ability to recover from unintended exits of the software.

The save issue has now been addressed so that the warning messages should no longer occur when Auto-Saving. If the Preference has previously been disabled it can be turned back on.

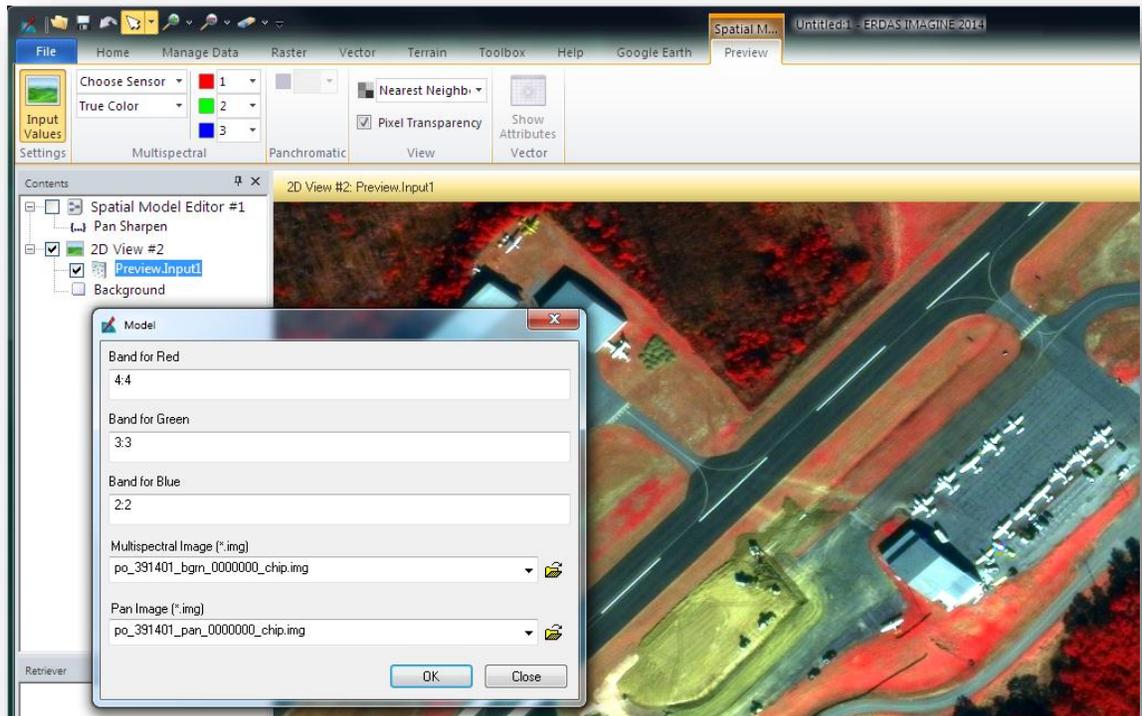
Spatial Modeler Preview Input Values

When you run a Preview the Preview gains focus and so the Spatial Modeler tabs are suppressed and you have the Preview tab instead.

If I want to change input parameters, such as which bands are being used for a pan sharpening Model, it can then take several mouse clicks to get back to the Spatial Modeler tab in order to get to the Preview pull-down and select the Input Values option.

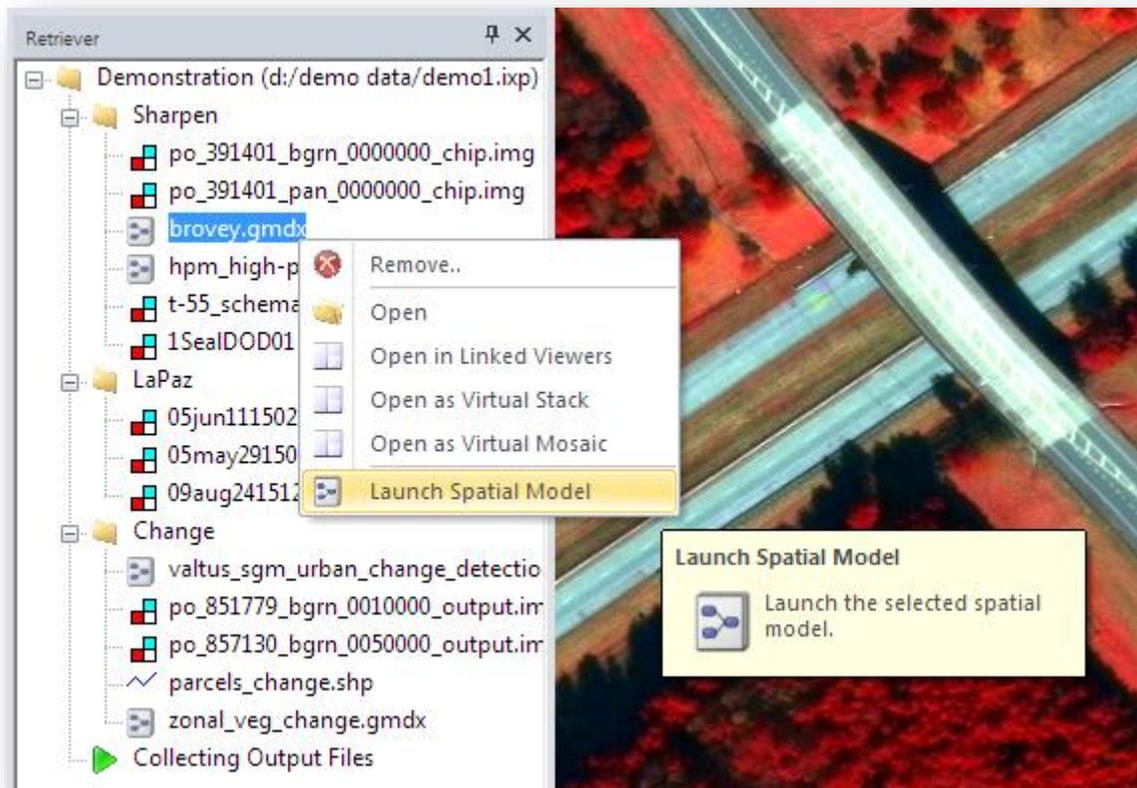
Consequently the Input Values button has been replicated onto the Preview tab.

This is especially useful if you hide the Spatial Modeler (by turning it off in the Table of Contents) to maximise the 2D View area for real-time spatial models. Hiding the Spatial Model Editor also removes the Spatial Modeler tab, so it is helpful to have access to control of the Input Values from the Preview tab in this manner.



Run Spatial Models from Retriever ShoeBox

As well as better support for drag and dropping Spatial Models to and from a ShoeBox, a Model can now also be run directly from the ShoeBox by right-clicking over it.



Selecting "Launch Spatial Model" will cause the Spatial Model process to launch, including prompting the user for any input or output values which have been defined in the Model using Input / Output Ports.

LAZ Support

Reading and/or writing compressed LAS format (*.LAZ) is now supported in all workflows that use point clouds as input and/or output. This includes visualization, point cloud tools and point cloud operators in Spatial Modeller.

ECW / JP2 SDK Support

ECW Export

ECW Export encodes faster when using 'Orient to Map' while persisting NODATA values from an input image to the output ECW. An issue where DATA values leaked into output NODATA was also addressed.

ECW Metadata

More ECW Metadata are exposed in the ECW Info tab found in View/Edit Image Metadata and in the ECW Compression report.

ECW Encoding Cache

The customer can now exceed 100% of available physical RAM in the ECW Encoding Cache Preference. This allow the customer to encode massive images in situations where they do not have enough available physical RAM. While encoding will be slower when exceeding 100% of available physical RAM, the compression project can proceed without waiting for additional RAM to be added into the system.

JP2 Metadata

Errors in GeoTIFF and GML coordinate reference system metadata have been corrected. These corrections allow customer to more effectively define JP2 data with either GeoTIFF tags (Geo-JP2), or with XML strings (GML-JP2).

More JP2 metadata are exposed in the JP2 Info tab found in View/Edit Image Metadata, and in the JP2 Compression report. These enhancements help customers analyse JP2 image data for potential metadata errors, and analyse JP2 images which are performing slowly. Poor JP2 performance is typically caused by a poorly selected JP2 profile. These metadata include: GeoTIFF tags, GML Strings, resolution levels, progression order, tile size, precinct size, block size, quality layers, and more.

ECWP

Errors were corrected when selecting ECWP in the Viewer.

ERS Conversion

Reading of ERDAS ER Mapper raster data (*.ERS) for viewing and processing in ERDAS IMAGINE through Direct Read has been available since ERDAS IMAGINE 2010. In this version Exporting of ERS data has been added. This supports the 3rd party products that require ERS data as an input.

ERV Conversion

Conversion of ERDAS ER Mapper vector data (*.ERV) to Shapefiles, in both single and in batch modes, has been added. This assists customers in migration from the ERV file format to Shapefiles for efficiency in processing and for greater compatibility with other geospatial products.

TIFF Improvements

Reading of TIFF data has been improved. Read improvements into the Viewer and in data processing can be seen in strip TIFF (BIL TIFF), BSQ TIFF and in tiled TIFF. Tiled TIFF is as fast as IMG when using a block size of 512 x512. BIL and BSQ TIFF read speeds have increased by almost 50%.

New Sensor Support

Support to the following sensors have been added in IMAGINE Photogrammetry, Geometric Correction tools and AutoSync

SkySAT-1

RPC model support for SkySAT-1, a satellite from Skybox Imaging launched on November 2013, is added in ERDAS IMAGINE 2014 v14.00.01

Göktürk-2

RPC model support for Gokturk-2, a Turkish Satellite launched in December 2012, is added in ERDAS IMAGINE 2014 v14.00.01

RASAT

RPC model support for RASAT, a Turkish Satellite launched in August 2011, is added in ERDAS IMAGINE 2014 v14.00.01

RapidEye RPC Support

RapidEye RPC support has been supported for images delivered in NITF format that have embedded RPC information. The support is now extended to other images formats with their RPC information delivered in an XML file.

New GeoEye data format support

With the Recent merger of GeoEye Inc. with DigitalGlobe, GeoEye-1's format has changed to conform to DigitalGlobe specification. The New GeoEye-1 format (RPC and Rigorous) is now supported in IMAGINE 14.00.0100. Legacy GeoEye-1 formats will continue to be supported.

RPC Auto Association for TIFF format

RPC files associated with TIFF image formats are now automatically used for geo-locating images in all applications that use RPCs. Some of the apps that use RPCs automatically include Viewer, Geometric correction tools, and IMAGINE photogrammetry.

RISAT Support

RISAT is a Radar Imaging Satellite developed by the Indian Space Research Organisation. Support for reading RISAT data and Geocoding/Ortho-rectification capability is added in ERDAS IMAGINE 2014 v14.00.01

IMAGINE GeoPalette™

IMAGINE GeoPalette™ is an Autonomous Spectral Image Processing capability developed by Applied Analysis, Inc. (AAI). IMAGINE GeoPalette provides the tools needed to rapidly and autonomously derive land materials classification, water boundaries, bathymetry, water clarity (derived Secchi depths), and water bottom materials classification from imagery.

IMAGINE GeoPalette works with multiple satellite and airborne sensors in both nadir and off-nadir modes. It requires three or more spectral bands in the 300-2500nm wavelength range.