

Pictometry ArcMap Extension Guide

January 2008



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Introduction

The Pictometry ArcMap extension uses an Active X control to integrate Pictometry oblique imagery into ESRI's ArcMap product. After you install the Pictometry extension, you'll use the Pictometry toolbar to set up the extension and to use its features. For example, you can click a Pictometry tool and then click a point on your ArcMap map. This causes the extension to open a Pictometry image showing the area you clicked on the map.

System requirements

Before installing the extension, make sure that your system has a minimum of 128 MB of RAM.

Resolution and settings

Although we support 800 x 600 resolution, we recommend that your screen's resolution be set to 1024 x 768 or higher. The Toolbar may not show up correctly at a lower resolution. For the best view of images, set the display color to 24-bit or higher.

For best performance

For optimal performance while running your application with the Pictometry extension, we recommend you follow these guidelines:

- While your application is running, keep the number of open programs to a minimum. The more memory that's used by other programs, the less memory there is available for viewing your images.
- Make sure your computer has at least 256 MB of RAM, since memory helps performance.

Installing the Pictometry extension

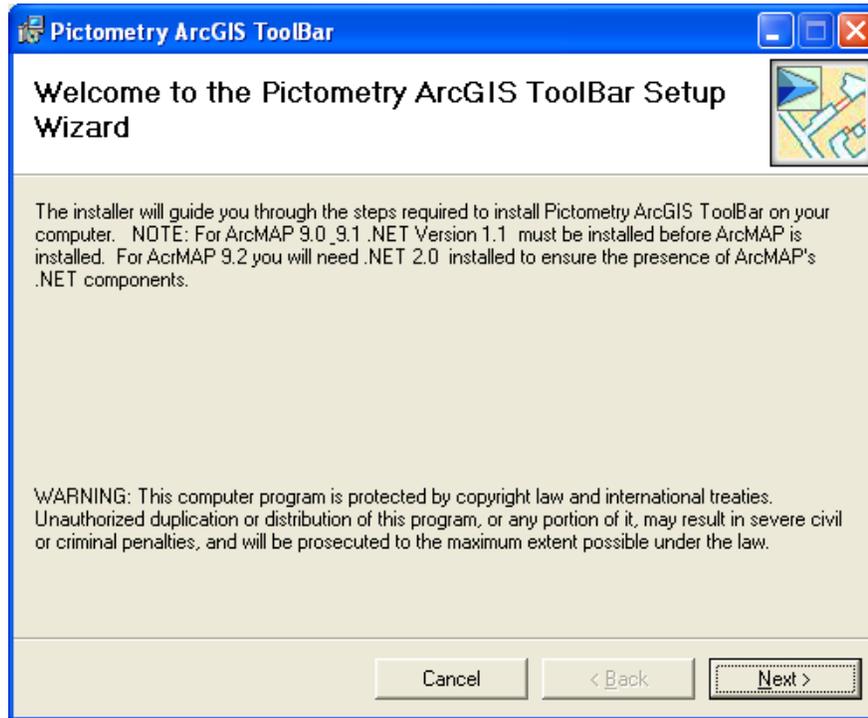
The following installation procedure automatically enables the Pictometry extension, but the extension can be disabled at any time.

The setup wizard presents a sequence of screens. Throughout this process, follow screen directions as they appear, then click **Next** to move to the next installation screen.

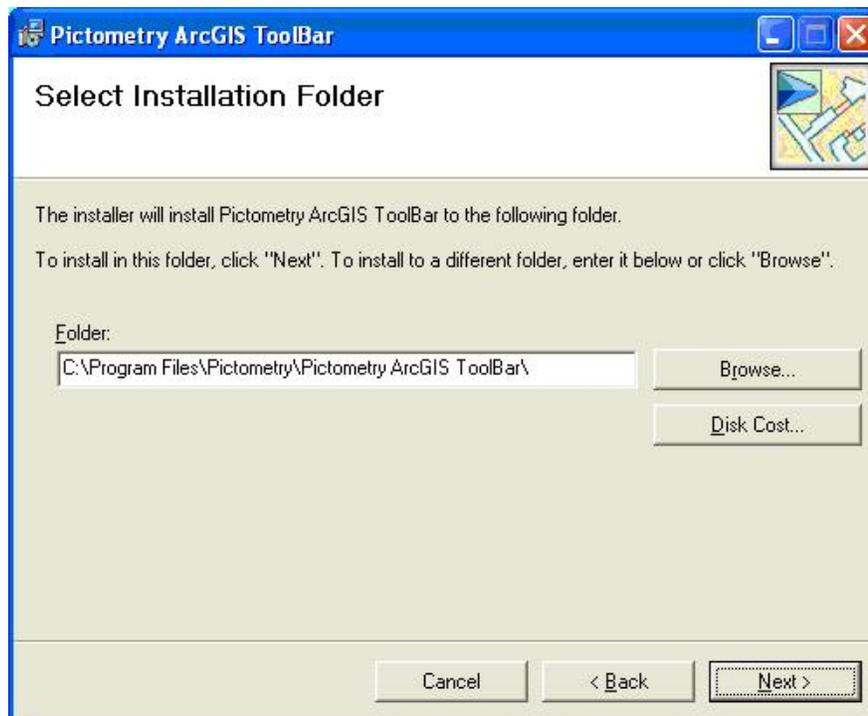
Installing the Pictometry extension

To install the Pictometry extension:

- 1 Run the setup program. The setup wizard appears.



- 2 Click **Next**.



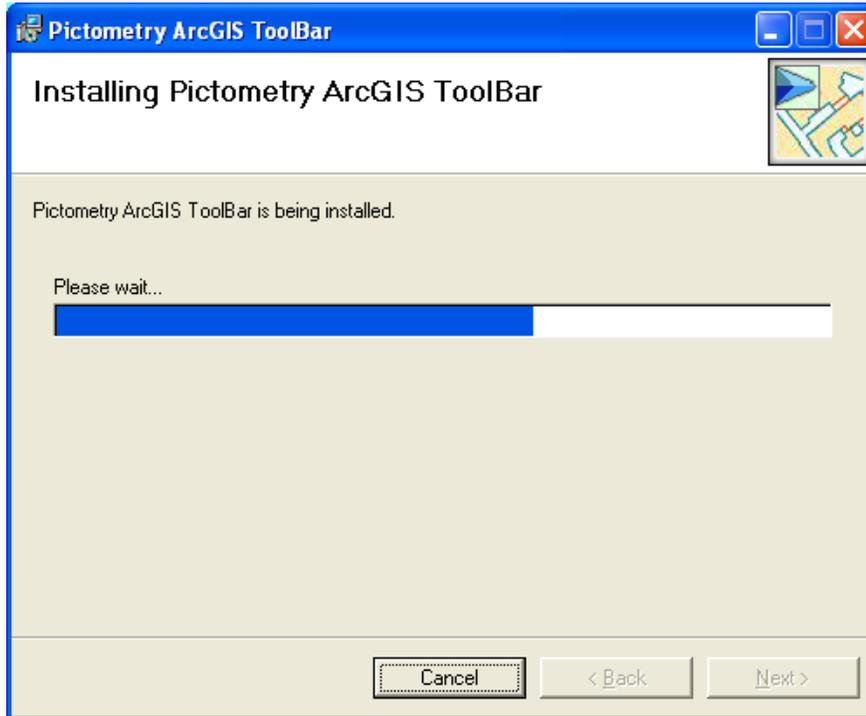
- 3 (Optional) Click **Browse** to select a different installation folder.

- 4 Click **Next**.

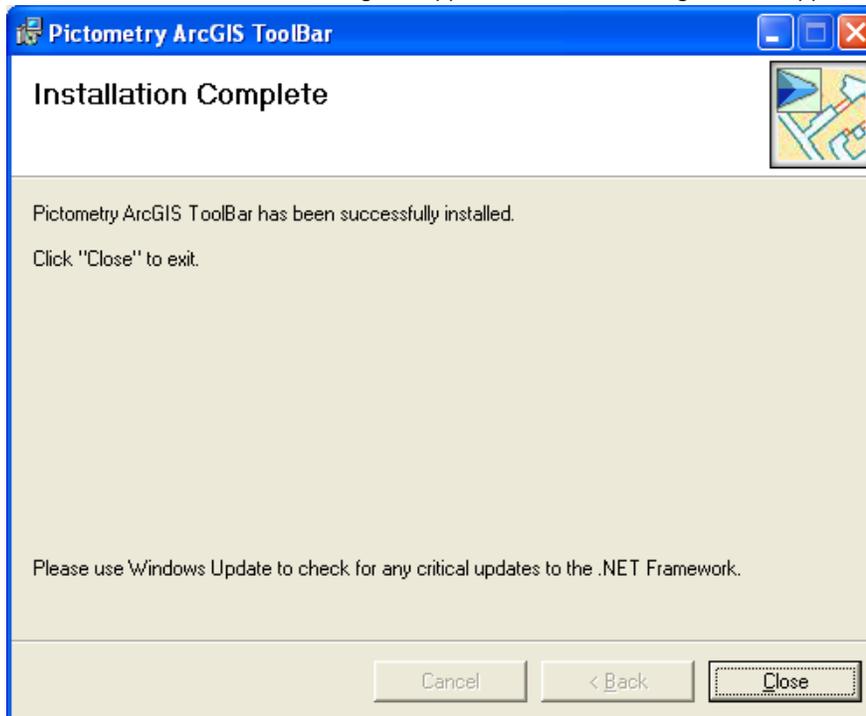
An installation window opens, and installation begins. A progress bar shows the status of the installation as the wizard is copying files. The setup program installs the product and registers

Installing the Pictometry extension

its components with the operating system and with ArcMap. During this phase an additional window may briefly appear. (This is a normal.)



When the wizard is done installing the application, the following window appears.



- 5 Click **Close** to exit the setup program. The Pictometry extension is now installed.

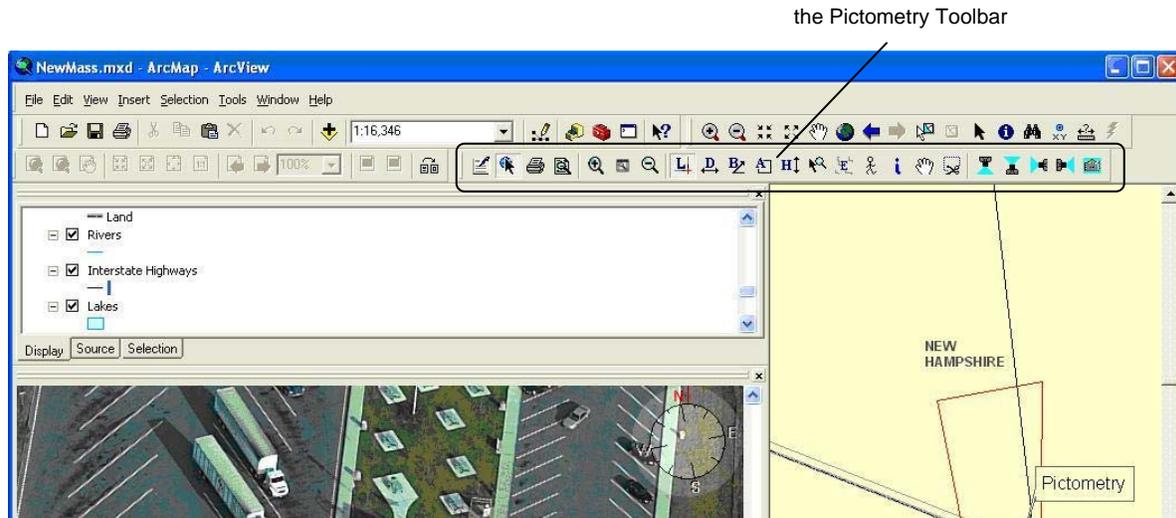
After installing

Note: If you need to disable the Pictometry extension for any reason, it can be disabled in the same manner as other (ESRI) extensions.

The next time you start ArcMap

The next time you start ArcMap, the Pictometry toolbar appears and floats over the ArcMap application. The toolbar is dim. You can move the toolbar to another part of the screen or you can dock it.

The following screen shows ArcMap with the docked Pictometry toolbar after an image has been opened.



After installing

After installing the Pictometry extension, you'll need to complete two one-time setup tasks. You'll need to specify the path to your Pictometry license, and you'll need to specify the path to your Image Warehouses. (You can specify more than one warehouse.) The warehouses can be located on a local hard drive, on a LAN, or on a Network Image Warehouse (NIW) server. You'll specify these paths on the Pictometry Image Viewer Settings dialog box.

One-time setup tasks

To set up the extension:

- 1 Click the **Pictometry Settings** button on the Pictometry toolbar. The Pictometry Image Viewer Settings dialog box opens.
- 2 To specify the location of your license,
 - a. Click the **Browse** button to the right of the License File field.
 - b. Navigate to the folder that contains your Pictometry license.
 - c. Select the license file (PLF), and click **Ok**.
- 3 To specify the location of your Image Warehouses, do one of the following:
 - Type the image warehouse path in the Image Warehouse Location box. (Use the following table as a guide.) Then skip to Step 4.

The Pictometry toolbar

If your warehouse ...	Enter the warehouse location, as shown in these examples
is stored on a local hard drive	c:\images\MyWarehouse.PIW
path is in UNC format	\\server\images\MyWarehouse.PIW
is stored on a NIW server	http://server/NIW/MyWarehouseName

Note: For more information about installing and configuring NIW, see the *Network Image Warehouse Installation and Administration Guide*.

–or–

- a. Click the **Browse** button to the right of the Image Warehouse Location field.
- b. Navigate to the warehouse folder (folder name ends in “-WHS”). The warehouse folder is in the Image Library folder.
- c. Select the file with the extension “piw” (Pictometry Image Warehouse). In most cases the name of this file will contain your county name or state name.

Important: Image Warehouses contain more than one PIW file, so be sure to pick the PIW file that resides in the warehouse folder (folder name ends in “-WHS”). It’s listed after the last cluster folder.

- d. Click **Open**.
 - e. To specify another Image Warehouse, type a semi-colon at the end of the first warehouse path and repeat Step 3a – 3d.
- 4 Click **OK**. The Pictometry Image Viewer Settings dialog box closes.

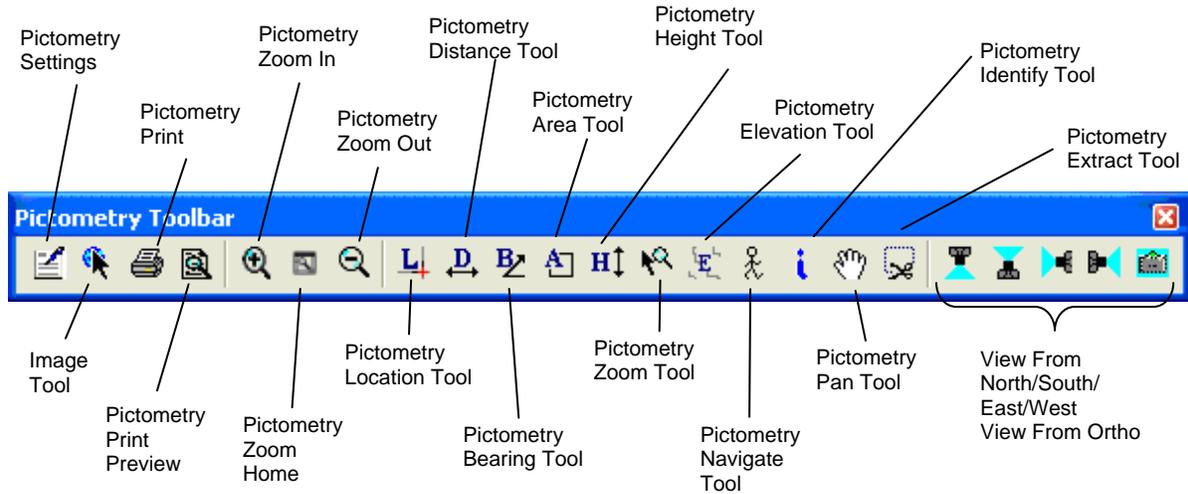
The Pictometry toolbar

After installation, the Pictometry toolbar floats over the ArcMap application. The toolbar can be moved to a different part of the screen or it can be docked.

To dock the Pictometry toolbar:

- 1 With the mouse pointer, grab the left side of the toolbar and drag it to the toolbar area.
- 2 Release the mouse button. The toolbar snaps into place.

The Pictometry toolbar



The Pictometry tools

The Pictometry toolbar contains the following tools and buttons.

Tool	Description
Pictometry Settings	Opens the Pictometry Image Viewer Settings dialog box so you can change the Pictometry extension's settings (such as units of measure, image filters, and whether overlays such as the compass are displayed on images).
Image Tool	Searches for images containing the geographic point you clicked.
Pictometry Print	Prints the portion of the image currently visible in the Image window and its print options to the current ArcMap printer. If the image to be printed is too large for the page, the image will be cropped to fit the page size.
Pictometry Print Preview	Shows a print preview of the portion of the image currently visible in the Image window and its print options.
Pictometry Zoom In	Doubles the magnification of the image shown in the Image window.
Pictometry Zoom Home	Changes the size of the image so that the entire image fits in the Image window.
Pictometry Zoom Out	Reduces the magnification of the image by half.
Pictometry Location Tool	Lets you select a new location by clicking a point in the image. The geographic coordinates for the point you clicked are shown in the Status Bar. Updates the current location marker on your map; may also load a new set of images, available by clicking the View From buttons.

The Pictometry toolbar

Tool	Description
Pictometry Bearing Tool	Measures the bearing (the orientation from True North) of an angle you outline in the active image. Pressing CTRL draws an additional line and displays the relative angle between the two lines.
Pictometry Distance Tool	<p>Measures the distance between two points in an image or the cumulative distance along a series of straight-line segments.</p> <p>To measure the perimeter of a rectangle, press CTRL while holding down the mouse button. To create a vertex when measuring polygons, press the V key. To measure freeform lines, hold the ALT key.</p> <p>The distance is shown in the Status Bar (at the bottom of the screen).</p>
Pictometry Area Tool	Calculates the area of any part of an image. (You can use the same keys as the Distance Tool for drawing freeform lines and vertices. When you use the "V" key, the tool automatically closes the polygon after you release the mouse button.
Pictometry Height Tool	Measures the height of a building or an object in an image, starting from the ground.
Pictometry Zoom Tool	If you click a point, doubles in size and repositions the image so that the point is at or closer to the center of the window.
Pictometry Elevation Tool	Gives the elevation above sea level of the point you click in an image.
Pictometry Navigate Tool	<p>Lets you navigate and measure between adjacent images. Each time you click or drag the mouse to a new location, the best image of the same direction and zoom level is displayed. Also calculates the distance of the route "walked."</p> <p>You can change the "view from" direction and continue using the Navigate Tool. The location marker and the image polygon (footprint) are updated on your map to reflect the current position.</p>
Pictometry Identify Tool	Lets you query GIS data in an image by clicking a point in the Pictometry image to view the GIS data associated with that point. The results are shown in a standard ArcMap dialog box.
Pictometry Pan Tool	Scrolls the image around in the Image window.
Pictometry Extract Tool	Lets you select a portion of the image in the Image window and export it to a JPG, BMP, TIFF, or JGP200 file. You can also double-click the image in the Image window to export the entire visible region. The extracted image is saved to the file you specified on the Pictometry Image Viewer Settings dialog box. If the haven't changed the file name since your last image extract, the new extract will over-write the last extract file created.
View From North	Displays an image captured from the north showing the same geographic area as the image currently in the Image window.
View From South	Displays an image captured from the south showing the same geographic area as the image currently in the Image window.
View From East	Displays an image captured from the east showing the same geographic area as the image currently in the Image window.
View From West	Displays an image captured from the west showing the same geographic area as the image currently in the Image window.

The Pictometry toolbar

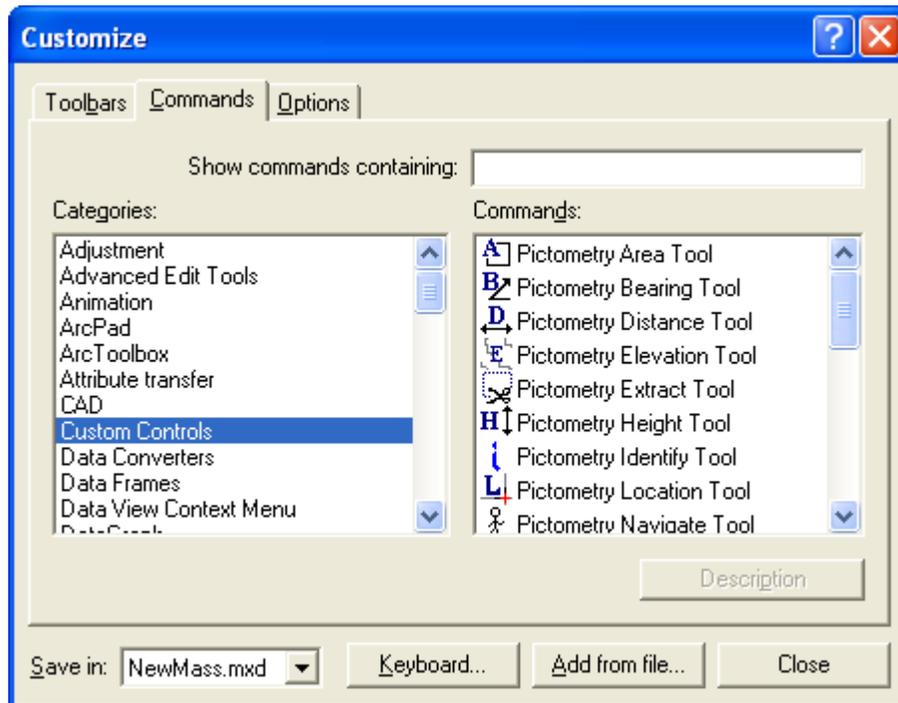
Tool	Description
View From Ortho	Displays an Orthogonal (straight down) image that most closely covers the same geographic area as the Oblique image currently in the window.

Customizing the Pictometry toolbar

You can customize the Pictometry toolbar by adding or removing buttons and by re-arranging their order.

To add a Pictometry button to the toolbar:

- 1 Right-click the toolbar and select **Customize** from the context menu. The Customize dialog box opens.
- 2 Click the **Commands** tab.



- 3 Select **Custom Controls** for the category.
- 4 Use the mouse to grab the desired command from the list and drag it to the Pictometry toolbar. Release the mouse button and click **Close**.

The button is added to a toolbar or is added as a new toolbar ("Toolbar n" where "n" is one more than the number of the last toolbar you added), depending on where you drag it.

- 5 Dock the tool by grabbing its left side and dragging it to the Pictometry toolbar. It will "connect" with the toolbar and dock into place.

To remove a button from the toolbar:

- 1 Right-click the toolbar and select **Customize** from the context menu.
- 2 Use the mouse to grab the button you wish to remove. Drag the button anywhere within the Image window, but not over the Customize dialog box. Release the mouse button.
- 3 Click **Close** to close the Customize dialog box.

Viewing Pictometry images

To re-arrange the order of buttons:

- 1 Right-click the toolbar and select **Customize** from the context menu. The Customize dialog box opens.
- 2 Use the mouse to grab the button you wish to move. Drag the button to the desired place on the toolbar and release the mouse button.
- 3 Click **Close** to close the Customize dialog box.

Disabling the Pictometry toolbar

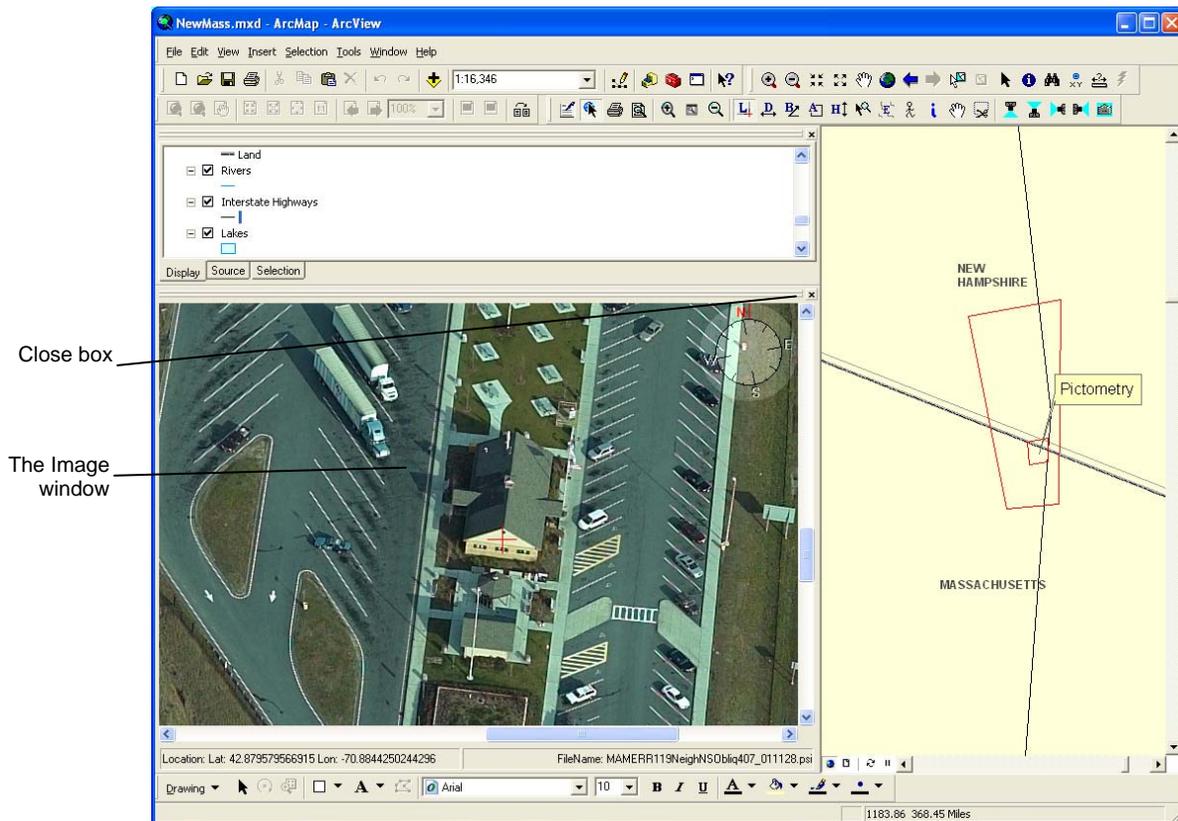
You can disable the Pictometry toolbar in the same way that you disable any other ArcMap toolbar. (Right-click the toolbar and select the toolbar to be disabled from the list.)

Viewing Pictometry images

The Pictometry ArcMap extension opens a window in ArcMap for viewing Pictometry images whenever you activate the Image Tool and click a point on the map. This window is known as the **Image** window.

The Image window

The Image window opens the first time you open a Pictometry image and closes only when you explicitly close it. The Image window can be resized, moved, closed, docked, or undocked, just as with any other window in a Microsoft Windows operating system.



Viewing Pictometry images

To dock or undock the Image window:

- 1 With the mouse pointer, grab the top edge of the window (if docked) or the title bar (if undocked), and drag it to another spot on the screen.

Note: When near another docked part of the screen, the window will automatically try to attach (dock) to the other area. To prevent the window from docking, hold down either the **CTRL** key or the **SHIFT** key until you decide where to locate the window.

- 2 Release the mouse button. If it's not near a docked area, the window floats on the ArcMap application.

To close the Image window:

- Click its Close box.

Opening images in the Image window

To open images in the Image window, click the Image Tool and then click a location in your map. The Image window opens and show the best north-up image contained in the warehouses you specified when you set up the extension. If there are no north-up images, then the best available image is displayed.

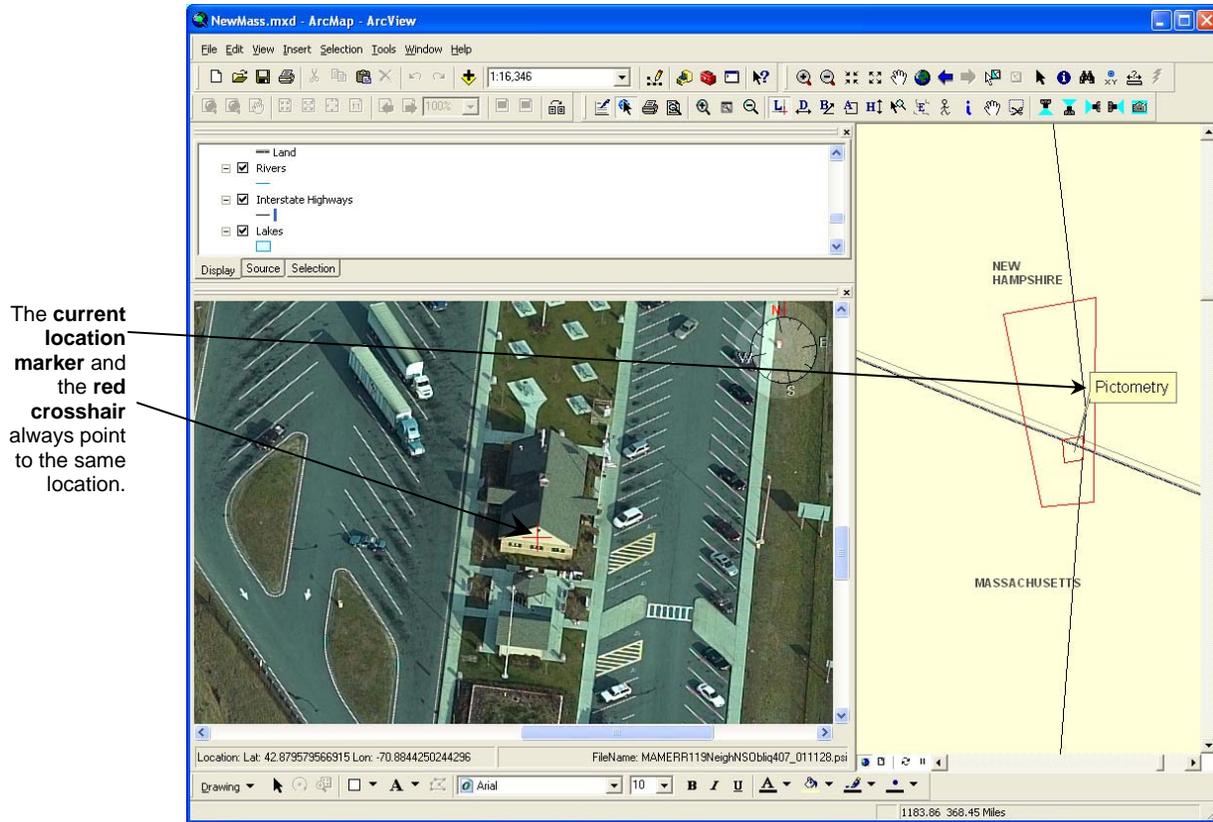
The Pictometry extension remembers the window's size and location for the duration of your ArcMap session, even if you close the window. The next time you open ArcMap, the window will be located in approximately the same position as your last session.

The current location marker and image polygons

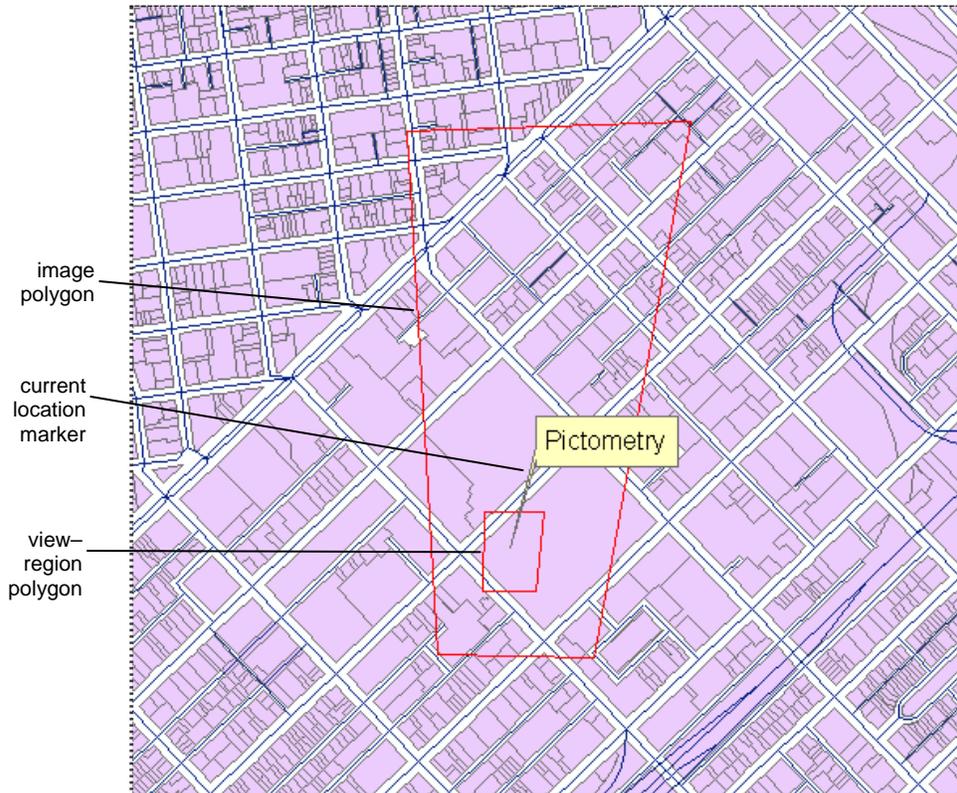
When you open an image in the Image window, the Pictometry extension shows the **current location marker**, the **view-region polygon** (footprint of the area currently visible in the Image window), and the **image polygon** (footprint of the entire image) on the current map. This helps you to better orient yourself between the map and the image open in the Image window.

The current location marker on the map always marks the location indicated by the red crosshair on the image. If you click a new location in the image (or use the Navigate tool to navigate to a different location), the extension updates the map by moving the current location marker to the new location, so the two markers (red crosshair and location marker) are always in synch.

Viewing Pictometry images



The following map shows the image polygon, the view-region polygon, and the current location marker.



Panning images

The Pan Tool lets you view the parts of an image that are not currently in view in the Image window.

To pan an image with the Pan Tool:



- 1 Click the **Pictometry Pan Tool**.
- 2 Click and hold the left mouse button.
- 3 Drag the image up, down, left, or right within the window.

Magnifying images

When you first open an image in the Image window, its magnification level is 100% (or 1:1, which means that one pixel in the image equates to one pixel on the screen). You can zoom in for more detail or zoom out for more context information. Simply change the image's magnification by using the zoom buttons on the toolbar. At any time you can return the image back to its starting percentage of 100%.

Zooming in

You can use either the **Zoom In** button or the **Zoom Tool** to increase the magnification of an image. The difference between them is that the Zoom In button magnifies the area around the center of the image, while the Zoom Tool allows you to click a point and then magnifies the area around the point you clicked. The Zoom Tool also re-positions the image so that the point you click is at or closer to the center of the window. You can also drag a rectangle with the Zoom Tool to magnify the area within the rectangle.

To zoom in on the current center of the image:



- 1 Click the **Pictometry Zoom In** button on the toolbar.
The magnification percentage is doubled. (The part of the image that was centered in the Image window remains in the center.)
- 2 Continue clicking the button until you reach the desired amount of magnification.

To zoom in on a point or area you select:



- 1 Click the **Pictometry Zoom Tool** on the toolbar. The cursor changes to a magnifying glass and the Zoom Tool is turned on. 
- 2 Do *one* of the following:
 - Click the point or drag a rectangle around the area you want magnified.
 - or —
 - Roll the mouse wheel *away from you to zoom in* to the location at the center of the image.The image is magnified and re-positioned so that the point you clicked is at or closer to the center of the Image window.

Note: If you click a point, the magnification percentage is doubled. If you drag a rectangle to zoom in on an area, the area will be magnified until it fills the Image window without changing the image's aspect ratio.

- 3 Repeat Step 2 until you reach the desired amount of magnification.

Viewing Pictometry images

Zooming out

To zoom out:



1 Do *one* of the following:

- Click the **Pictometry Zoom Out** button on the toolbar.
- or —



- Click the **Pictometry Zoom Tool**, then roll the mouse wheel *toward you to zoom out* from the location at the center image.

The magnification is reduced by half.

2 Repeat Step 1 until you've zoomed out the desired amount.

Displaying the entire image

To display the entire image in the Image window:



- Click the **Pictometry Zoom Home** button.

The image is scaled to fit within the Image window.

Opening other views

You can use the **View From** buttons to open other views of the same area you are viewing in the Image window. These images are actually search hits that show the location you searched for from different directions. You can view an image from the north, south, east, west, or an Ortho. If a button is dim, then there are no matching images available for that direction.

When are other views available?

You can open an area's alternate view if *all* of the following are true:

- If the desired alternate view of the area exists in your warehouse.
- If you haven't excluded the alternate view (on the Pictometry Image Viewer Settings dialog box) before searching.
- If the current image was opened as a result of your last image search. (An image search would include clicking a point with the Image Tool or using the Navigate Tool.)

Alternate views updated with each image search

Each time you search, the View From buttons are updated with new search hits if the application finds applicable views of the location on which you searched. When you click a "View From" button, the application opens an image found during your last search. These images remain available until the next search, at which time the buttons are again updated. The image opened when you use the View From button is based on the location of the last search.

When you use the View From buttons to change views, the application maintains as many image characteristics as possible, for a smooth transition that is not disorienting. For example, when you click the "View From North" button, the application switches images, but maintains the shot level and image type.

To see an alternate view for a location:

- 1 (If you haven't performed a search since starting ArcMap), perform an image search by activating the Image Tool and clicking on the map. A red crosshair appears at the point you searched.

Using the measurement tools

Note: A dim button indicates that no image is available for that view. Perhaps you've limited search hits.

- 2 Click the toolbar button for the view you want to see. The extension activates the "best" search hit corresponding to the button you clicked.

How does the application choose which image to display? It looks for the highest resolution image with the point you clicked closest to its sweet spot. It also considers several other factors when choosing the image.

Image window persistence

When you start ArcMap, the Image window stays in the same position and state (open or closed) that it was in when you last closed ArcMap. If you left it open and closed ArcMap, the window will be open and blank the next time you start ArcMap.

Using the measurement tools

The Pictometry extension offers various tools for measuring features visible in images. For example, you can measure the distance between two points, the elevation of the terrain, building heights, bearing, area, perimeter, and the coordinates of a point.

Before using the measurement tools, be sure that the unit of measure is set as desired.

Changing units of measure

To change units of measure:

- 1 Click the **Pictometry Settings** toolbar button. The Pictometry Image Viewer Settings dialog box opens.
- 2 Click the desired units: **Meters** or **Feet**.
- 3 Click **Ok**.

Your changes remain in effect until you change units again.

Viewing the coordinates of a location

Use the **Location Tool** to determine the location (the coordinates of) of an object in an image.

To determine the location of an object:



- 1 Click the **Pictometry Location Tool**.
- 2 Click the desired location on the map or image.

The point's coordinates appear in the Status Bar, and a point and text may appear on the image.

Notes & Tips:

For Oblique images, remember to click near the base of buildings for more accurate coordinates.

Measuring distance

Use the **Distance Tool** to measure the distance between two points in an image or the cumulative distance along a series of straight-line segments.

To measure distance:

- 1 Click the **Pictometry Distance Tool**.
- 2 Press and hold the left mouse button on the starting point.

Note: To insert a vertex (corner), press and release the **V** key. To drag a freeform line, hold down the **ALT** key and drag the mouse pointer along the path you want to measure. (You'll be able to drag the mouse in any direction.)

- 3 Drag to an ending point and release the mouse button.

The measurement appears on the Status Bar, and a line and text may appear on the image.

Measuring perimeter

You'll use the **Distance Tool** to measure perimeter—the distance around the outside edge of an object. You can measure the perimeter of any straight-sided or freeform shape.

To measure the perimeter of an object that resembles a parallelogram, you'll use the Distance Tool and the CTRL key to draw a parallelogram over the object.

To measure the perimeter of a freeform shape or any straight-sided shape other than a parallelogram, you'll use the Distance Tool after using the Area Tool. (Because the Area Tool always closes the shape, you'll get the most accurate result by using it to outline the perimeter.)

To measure perimeter by using a parallelogram:



- 1 Click the **Pictometry Distance Tool**.
- 2 Starting with one corner of the object, press and hold the left mouse button, then drag a line across one side of the shape. *Don't release the mouse button.*
- 3 Press and hold the **CTRL** key, and drag the mouse along an adjacent side. The outline of a parallelogram appears as you drag the mouse.
- 4 When the parallelogram surrounds the shape you are measuring, release both the **CTRL** key and the mouse button.

The measurement appears on the Status Bar.

To measure the perimeter of a shape other than a parallelogram:



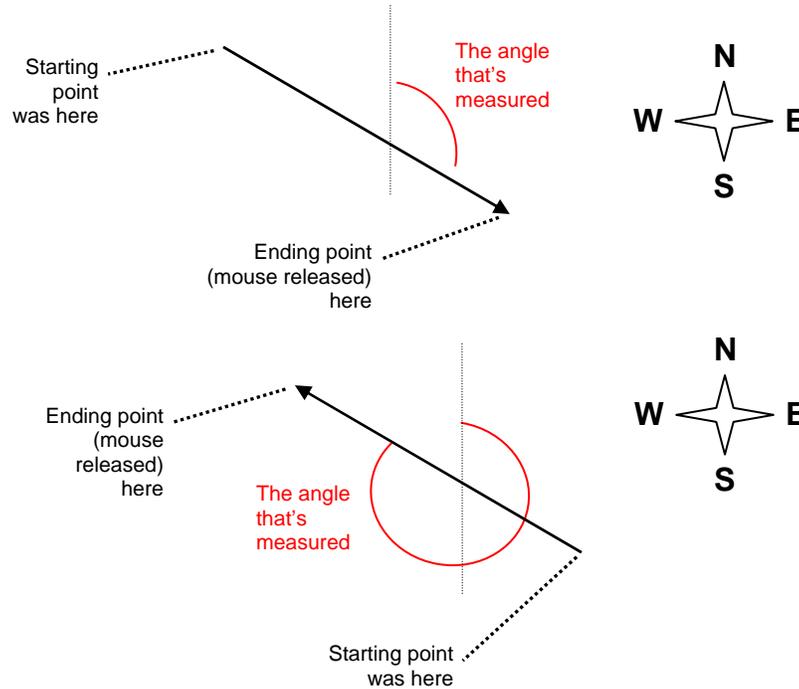
- 1 Measure the area of the shape.
- 2 Click the **Pictometry Distance Tool**.

The perimeter measurement replaces the area measurement on the Status Bar.

Measuring bearing and angles

You'll use the mouse to draw one line (to measure bearing) or two lines (to measure the angle formed by their intersection). Where you start drawing the line is important, as shown in the following illustrations:

Using the measurement tools



To measure bearing:

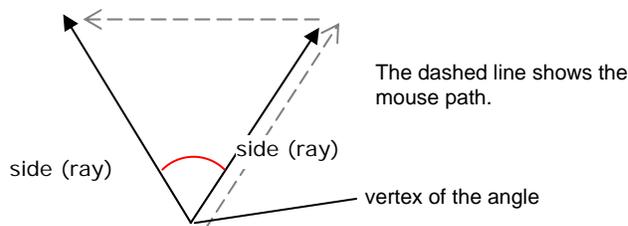


- 1 Click the **Pictometry Bearing Tool**.
- 2 Press and hold the left mouse button on the starting point.
- 3 Drag the mouse pointer to an ending point in the direction you want to measure the bearing of. Then release the mouse button. The measurement appears on the Status Bar.

To measure an angle:



- 1 Click the **Pictometry Bearing Tool**.
- 2 Press and hold the left mouse button on the point you want to be the angle's vertex. Drag a line from the vertex along one side (ray) of the angle.



- 3 Press and hold the **CTRL** key, then drag the mouse pointer away from the first side to draw the second ray of the angle. Release the mouse button and the **CTRL** key. The measurement appears on the Status Bar.

Measuring area

The **Area Tool** lets you measure the area of any shape, whether it has curved or straight sides. After you outline the perimeter of the area to be measured, the area measurement appears on the Status Bar.

To measure area by using a parallelogram:



- 1 Click the **Pictometry Area Tool**.
- 2 Starting with one of the corners of the object, press and hold the left mouse button, then drag a line across one side of the shape. *Don't release the mouse button.*
- 3 Press and hold the **CTRL** key, and drag the mouse along an adjacent side. The outline of a parallelogram appears as you drag the mouse.
- 4 When the parallelogram surrounds the shape to measure the area of, release both the **CTRL** key and the mouse button.

To measure the area of any freeform shape:



- 1 Click the **Pictometry Area Tool**.
- 2 At the desired starting point, press and hold the mouse button and drag the mouse along the outline of the area you wish to measure. Use the following keys to outline the area:
 - To draw any part of the shape that is freeform, press and hold the **ALT** key while dragging the mouse.
 - To create a vertex (corner), press and release the **V** key, then drag the mouse in the new direction.

Note: The results will not be accurate if you cross over your path.

- 3 When you've outlined the entire area, drag the mouse pointer to meet the starting point, then release the mouse button. The Area Tool automatically completes the polygon, even if you release the mouse button before you return to your starting point.

To measure the area of any straight-sided shape:



- 1 Click the **Pictometry Area Tool**.
- 2 At the desired starting point, press and hold the mouse button and drag a straight line.
- 3 Press and release the **V** key to create a vertex (corner) and drag the next leg.
- 4 Repeat Step 3 to continue outlining the shape to be measured.
- 5 When you've outlined the entire perimeter, release the mouse. The Area Tool automatically completes the polygon, even if you release the mouse button before you return to your starting point.

Measuring height

Use the **Height Tool** to measure the height of an object in an Oblique image. (Because Orthogonal images are captured straight down, the Height Tool doesn't apply to them.)

To measure height:

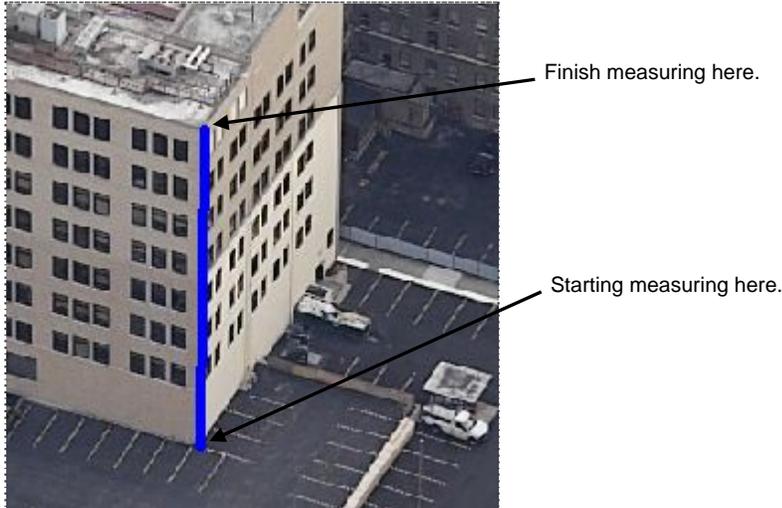


- 1 Click the **Pictometry Height Tool**.
- 2 Press and hold the left mouse button on a point at the base (where it meets the ground) of the object you want to measure the height of.

Important: Be sure to measure height by *starting at ground level* and moving *upwards*. If you cannot see the ground level starting point, you must estimate its location.

The application draws a plumb line—a true vertical (perpendicular to the ground), which remains plumb if you waver left or right as you drag the mouse.

- 3 Drag the mouse upwards and release it at the ending point.



The measurement appears on the Status Bar.

Measuring elevation

Use the Elevation Tool to measure the elevation (height above sea level) of a point in an image.



To measure the elevation:

- Click the **Pictometry Elevation Tool**, then click the point whose elevation you want to measure.

The measurement appears on the Status Bar.

Printing and extracting images

Printing images

The **Pictometry Print** button prints the portion of the image currently visible in the Image window along with any print options you've selected. Before printing, scroll or pan the image so that the portion you wish to print is visible in the Image window.

Tip: To see a preview of the printed image before printing, click the **Pictometry Print Preview** button. (Although the preview closely approximates the final print appearance, the limitations imposed by the printer and current paper selection may cause the final print to vary.)

To print the visible part of the image:

- 1 Click the **Pictometry Settings** button.
- 2 Check the desired print options and click **OK**.

Printing and extracting images

- 3 Click the **Pictometry Print** button.

The visible part of the image is printed to the current ArcMap printer. If the visible part of the image does not fit on the page, then the image may be cropped to fit the page.

Extracting images

The **Pictometry Extract Tool** lets you select a portion of the image in the Image window and export it to a JPG, BMP, TIFF, or JGP200 file. You can also double-click the image in the Image window to export the entire visible region.

Choice of watermark

You can choose the level of watermark used for extracted images. The minimum level of watermark you can choose is set by an option in your user license. You can be licensed for any or all of the following watermarking options:

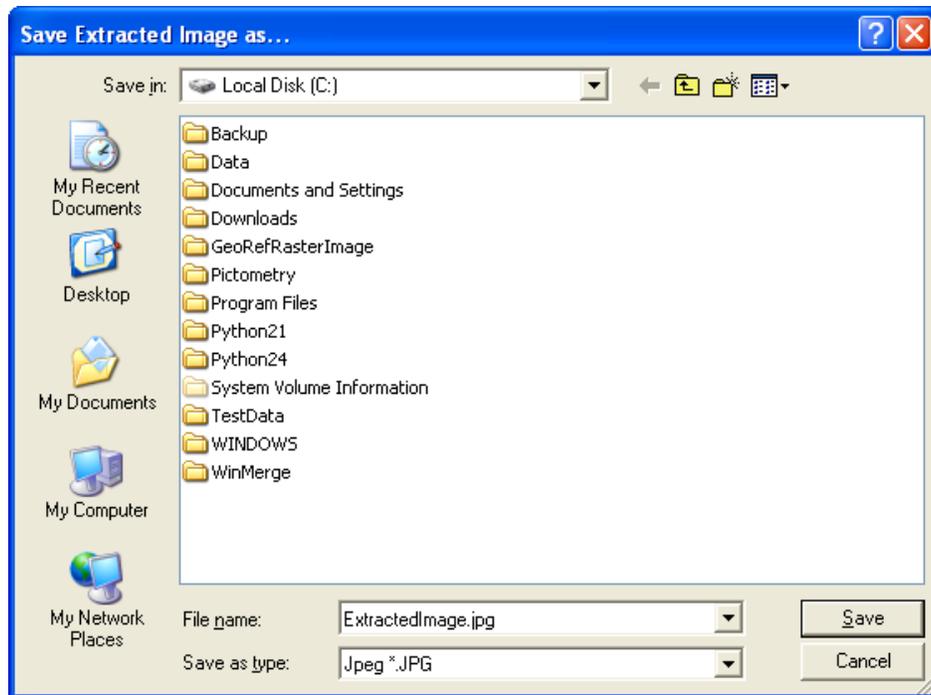
- None (no watermark at all)
- Light (most translucent)
- Medium (somewhat translucent)
- Heavy (slightly translucent)

Note: If none of these options are included in your user license, your extracted images will be watermarked with a heavy watermark.

To extract an image:

- 1 Open the image you want to extract a portion of.
- 2 Click the **Pictometry Settings** button. The Pictometry Image Viewer Settings dialog box opens.
 - a From the File Type drop-down list, select the desired format for the extract file.
 - b If you're extracting to a JPEG file, select or type a value for JPEG Image Quality. The number must be between 1 and 100.
 - c (*Optional*) Check or uncheck the options for removing overlays and the compass before extracting the image.
 - d (*Optional and subject to your license options*) Select the degree of watermarking.
 - e Click **Ok**. The Pictometry Image Viewer Settings dialog box closes.
- 3 Click the **Pictometry Extract Tool**. The cursor changes to a black crosshair and scissors.
- 4 Do one of the following:
 - To extract a rectangular area within the visible part of the image, press and hold one corner of the rectangle to be extracted, then drag diagonally to the opposite corner. Release the mouse button.
 - or —
 - To extract the entire visible region, double-click the image in the Image window.The following dialog box appears.

Navigating a route



- 5 Navigate to the folder in which to store the extract file, type a name in the File name box, and click **Save**.

The extracted image is saved to the file you specified. If you typed or selected an existing name, the new extract will over-write the file.

Navigating a route

The **Navigate Tool** is a handy way to plan and measure a route—whether that route is within a single image or spanning multiple images. The route may be a single straight line or a series of connected line segments. You can click in the direction of travel, for easy navigation through your Image Warehouse. As you approach the edge of an image, the application seamlessly transitions to an adjacent image. It opens the best adjacent image in the direction of travel, so you can continue drawing your route.

When changing from one image to another, the image type and orientation remain the same. Your Pictometry extension draws (on the image) the path traveled and reports (on the Status Bar) the total distance traveled.

Note: To continue a route, the application must have access to shots of same shot level. If the Navigate Tool does not work as expected, you may have excluded shot levels by unchecking Image Filter options on the Pictometry Image Viewer Settings dialog box.

Before navigating a route, be sure that you have an image or map open in the Image window.

To navigate a route:



- 1 Click the **Pictometry Navigate Tool**.
The cursor changes to a walking figure (matching the Navigate Tool's button).

Navigating a route

Note: The route begins at the point last searched. If you wish to start elsewhere, you can choose a new starting point (in Step 2).

- 2 (Optional) To choose a new starting point, do one of the following:
 - Click the **Image Tool**, then click the desired starting point.
 - or —
 - Double-click the desired starting point.A red crosshair appears at that point, and the new starting point is centered in the Image window.
- 3 Click on the image in the direction you wish to travel.

The red crosshair at the starting point changes to yellow, and a new red crosshair appears at the point you just clicked.
- 4 Continue to click points along the path you wish to travel, until the route is complete.

With each click, the red crosshair becomes yellow and a new red crosshair appears at the point just clicked. A new line is drawn to connect these two points. There will always be two crosshairs—a red crosshair for the current point and a yellow crosshair for the previous point. The Status Bar shows the current cumulative distance.
- 5 To finish the route, do *one* of the following:
 - Double-click anywhere in the image (while the Navigate Tool is active).
 - or —
 - Use the Image Tool to perform a new image search.The route is complete. The path is erased, and a red crosshair appears where you clicked. You can now begin a new route.

Changing the path

If you wish to change or correct a path you've just drawn with the Navigate Tool, you can move backwards along the path (any number of segments) and click a new point to continue in that new direction. The following table shows how you can navigate within the route you are traveling while using the Navigate Tool.

To move ...	Press this key on your keyboard ...
Back one segment	PAGE UP key
Forward one segment (when you've already moved backwards)	PAGE DOWN key
Back to the starting point	HOME key
Forward to the current endpoint	END key

When you click the new point ...

The previous line segment is erased and the cumulative distance in the Status Bar adjusts accordingly.

Why is the Navigate Tool zig-zagging?

If you find that the Navigate Tool is not behaving as you'd expect, particularly at the edge of an image; it's likely that you've run out of images of the same image type, shot level, and orientation as the one on which you started. To complete a route, the Image Warehouse must contain images of the same shot level, image type, and orientation—for the entire route.

Querying a layer

When the Navigate Tool stops unexpectedly

The Navigate Tool was designed to be used with *contiguous images of the same shot level*. In theory, its route could continue forever. But in reality, the tool is limited to the area that your Image Warehouse covers.

Here are some times when the Navigate Tool may not be able to proceed to the next image.

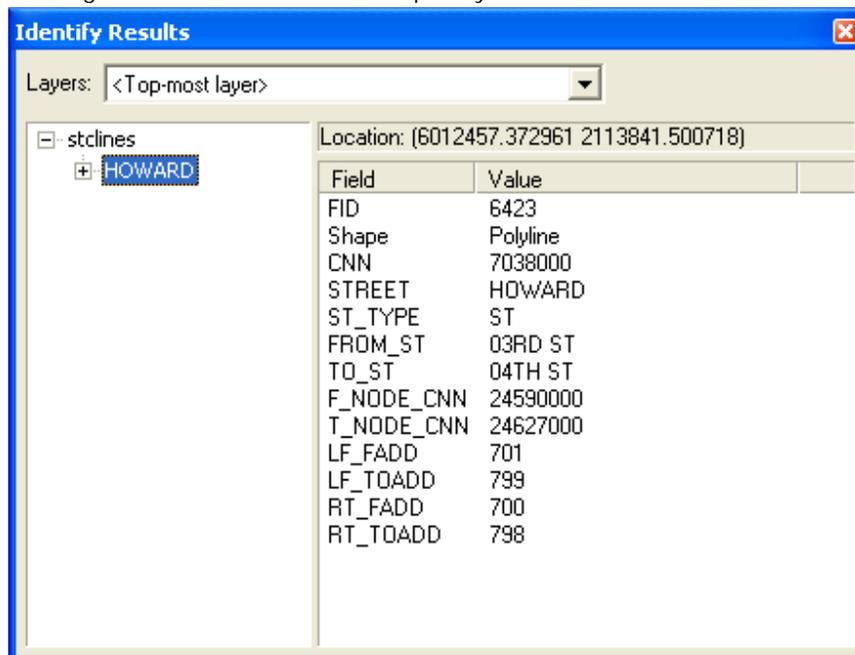
- When trying to proceed to an image with a different shot level, image type, or orientation than the active image. (This sometimes happens when the Navigate Tool tries to move to the outermost images in your library.)
- When you're using an older image library with perpendicular two-way Community Obliques. (Newer image libraries with opposing two-way Community Obliques or four-way Community Obliques are not limited in this way.)
- When you're viewing an Ortho Sector Tile.

Querying a layer

The **Pictometry Identify Tool** uses coordinates from a location you click to find and display GIS vector data for the nearest GIS object. A corresponding text field of your choice can also be displayed.

To query GIS data:

- 1 Click the **Pictometry Identify Tool**. The cursor changes to the Identify Tool cursor.
- 2 Be sure the image you want to query is open in the Image window.
- 3 In your image, click the location that you'd like to query. The following dialog box appears, showing the data associated with the point you clicked.



After your first query, you can query other locations in the layer by simply clicking them.

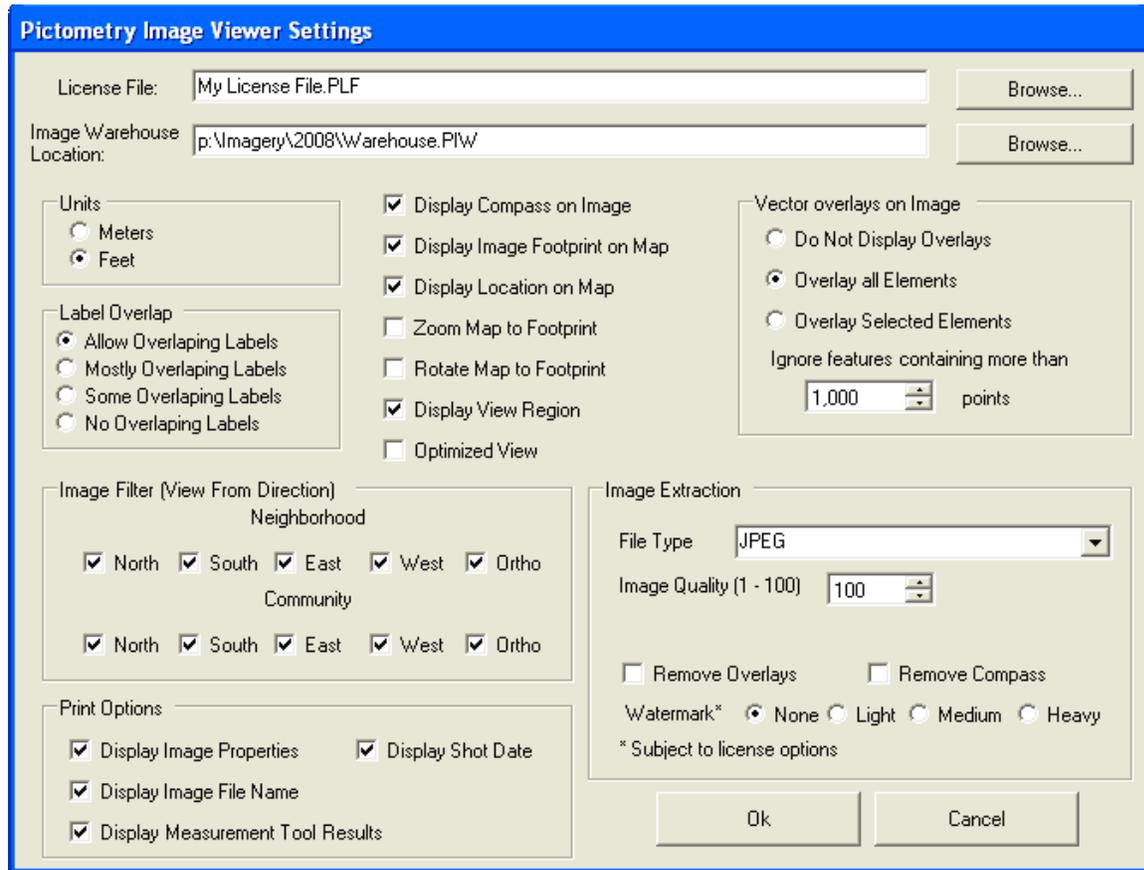
Other extension settings

The Pictometry extension has various properties that affect searching for and viewing images. Clicking the Pictometry Settings toolbar button causes the Pictometry Image Viewer Settings dialog box to appear. From this dialog box you'll set various options such as units of measure and image display options.

Note: Image Viewer settings are updated when you click **ok**. There is no need to restart ArcMap.

The Pictometry Image Viewer Settings dialog box

You'll use the Pictometry Image Viewer Settings dialog box to set up various options that affect how images are displayed, printed, or extracted, and how labels appear in your ArcMap map.



The Pictometry Image Viewer Settings dialog box contains the following options.

Field	Description
License File	Contains the path to your Pictometry license file. (Enter the path or click Browse to navigate to it.)
Image Warehouse Location	Contains the path to your Pictometry Image Warehouse. (Enter the path or click Browse to navigate to it.) Can list more than one warehouse, separated by a semi-colon.
Units	Click the unit of measure in which calculations should be displayed.

Other extension settings

Field	Description
Label Overlap	Click the button for the label density you prefer. "Allow Overlapping Labels" causes all labels <i>within</i> the Pictometry image polygon <i>to be shown</i> on the map. "No Overlapping Labels" causes all labels within the Pictometry image polygon <i>to be hidden from view</i> on the map.
Image Filter	Used to include or exclude shots levels and directions when you search for images (by clicking a point on a map). For Neighborhood and Community shot levels, check all directions you want included in an image search. Uncheck those you want excluded. Generally these checkboxes are used to display Community images instead of Neighborhood images.
Print Options	Check the boxes for the information you want displayed on the printout along with the image. You can print image properties, the image's file name, measurement results, and the date on which the image was taken.
Display Compass on Image	Check this box if you want the compass to be shown on images in the Image window.
Display Image Footprint on Map	Check this box if you want an image polygon to be shown on the map. The image polygon represents the footprint of the image in the Image window.
Display Location on Map	Check this box if you want the current location marker to be shown on the map. The current location marker corresponds to the red crosshair in the Image window.
Zoom Map to Footprint	Check this box if you want the map to automatically be magnified to show only the area within the image footprint.
Rotate Map to Footprint	Check this box if you want the map to be rotated so its orientation matches that of the image in the Image window. For example, if your image is south up, checking this box causes the extension to rotate the map so it is south-up. This option keeps both the image and the map synchronized.
Display View Region	Check this box if you want a view-region polygon to be shown on the map. The view-region polygon represents the part of the image that is currently visible in the Image window.
Optimized View	Affects the frequency in which the view-region polygon is re-drawn on the map when you scroll an image in the Image window. <i>Check</i> this box if you want the view-region polygon to be updated only after you release the mouse button. <i>Uncheck</i> this box if you want the view-region polygon to be continuously updated as you scroll the image in the Image window. (This can slow down system performance.)
Vector overlays on Image	Click the button that indicates how you want vector overlays displayed on Pictometry images. If you choose to display overlays, the vectors are drawn in the same color as the layer in the map. To overlay selected elements, use the ArcMap Selection Tool to highlight the elements on the map. Those elements will be drawn on the Pictometry images as well.

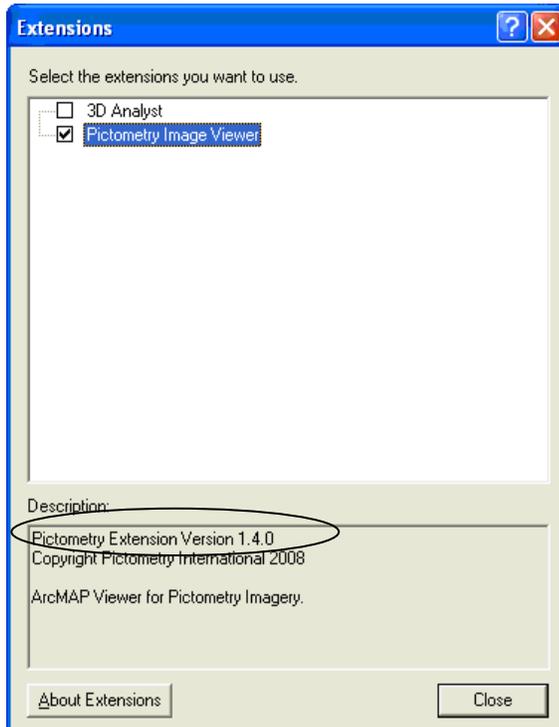
Viewing the version number

Field	Description
Ignore features containing more than <XXX> points	Very large polygons can take a long time to draw on the Pictometry image. This option allows you to ignore very large polygons when displaying overlays on Pictometry images. The value can be anywhere from 10 points to 10,000 points, with a default value of 1,000.
Image Extraction	The image extract options allow you to set up the information used by the Pictometry Extract Tool when saving an image extract. These options should be set before you click the Pictometry Extract Tool.
File Type	Select the format in which to save the extracted image.
Image Quality	If you are extracting to a JPEG file, select or type a value for JPEG Image Quality. The number must be between 1 and 100.
Remove Overlays	<i>Check this option if you do not want overlays on the extracted image.</i>
Remove Compass	<i>Check this option if you do not want a compass overlaid on the extracted image.</i>
Watermark	Click the desired degree of watermarking, according to the terms of your license agreement. You can ignore this option if your license does not allow changes to this setting.

Viewing the version number

To view the Pictometry extension version number:

- 1 Choose (ArcMap) **Tools**⇒**Extensions**. The Extensions dialog box appears.



- 2 Click **Close**.

Known problems

The following known problems exist:

Problem	Reason and workaround
<p>Multiple image polygons visible</p> <p>You see more than one set of annotations for the image polygon, view-region polygon, and current location marker.</p>	<p>You probably saved your map by using File⇒Save and the temporary annotations designating the image footprint, view region, and current location were saved with it.</p> <p>To fix this, click the ArcMap tool “Select Elements,” select the annotations to be removed, and press the DELETE key.</p>

Error messages

Problem	Explanation
<p>No matching images found</p>	<p>You clicked the Image Tool and clicked your map, but no image appears in the Image window and the message “No matching images found” appears in the Status Bar.</p> <p>The path to your Image Warehouse may not be set up properly. Check the path specified on the Pictometry Image Viewer Settings dialog box,</p> <p>Or</p> <p>You may have clicked the map outside of the region covered by your Image Warehouse.</p>

Frequently asked questions

Why do I get an error when exiting ArcMap?

Question: Occasionally, when exiting ArcMap, I get a message that says an error has occurred. Is there a fix for this problem?

Response: The error occurs at shutdown and is therefore harmless. Its occurrence has been reduced but not eliminated in ArcMap 9.2 or higher. Unfortunately, it is difficult to diagnose and we are working with ESRI to find the cause.

Update: This error has been fixed in version 1.4.0 of the extension and ArcMAP 9.2 or higher.

What should I do about missing components when installing?

Question: When I install the ArcMap extension, I get an error message saying that some components are missing. What components are missing and how do I install them?

Response: The Pictometry ArcMap extension is based on .NET and therefore requires .NET 1.1 or .NET 2.0. If you are running ArcMap 9.1 or earlier, you need .NET 1.1. If you are running ArcMap 9.2 or later, then you need .NET 2.0. In addition, you must install the .NET components of ArcMap. If they have not been installed, you can add them by going to "Add/Remove Programs," selecting ArcMap, and clicking "Change." If there is no entry for the .NET components, then you are missing .NET. You'll need to re-install these applications in the following order:

Frequently asked questions

- 1 .NET 1.1 or 2.0
- 2 ArcMap. (Be sure that the .NET components are installed.)
- 3 the Pictometry extension