



Using Microsoft Research Maps

(last updated July 2010)

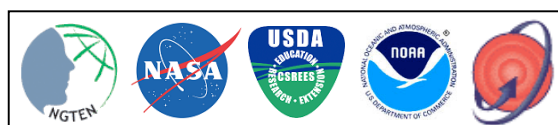
1. To obtain an aerial photo (DOQ) or a scanned topo sheet (DRG) for use in a GIS, go online to Microsoft Research Maps at <http://msrmaps.com> using your browser.



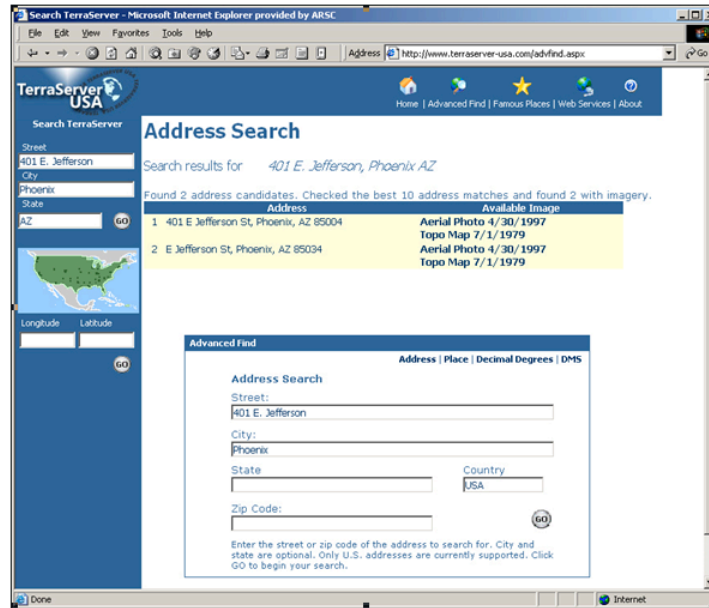
2. The easiest way to zoom in to your area of interest is to type its address in the “Search MSR Maps” area on the upper left side of the homepage and click “Go.” In our example, we typed in the address for Chase Ball Park in Phoenix, Arizona.



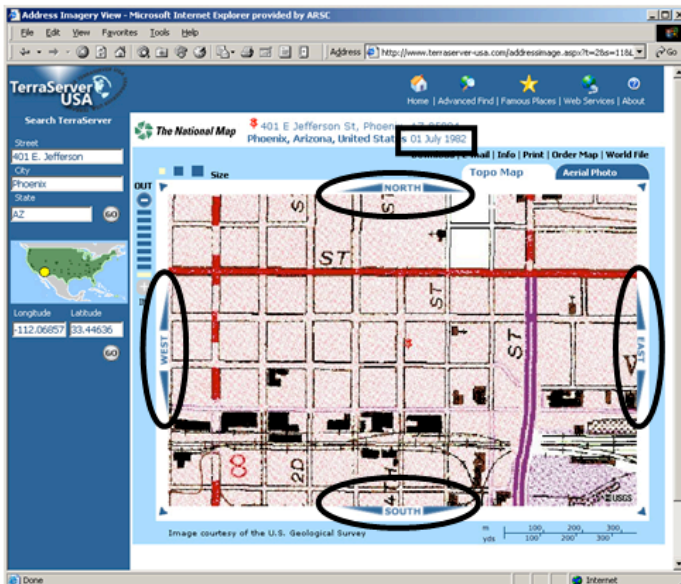
NOTE: We put the black boxes and circles on the images (above and below). The black boxes and circles are not part of the original web pages.



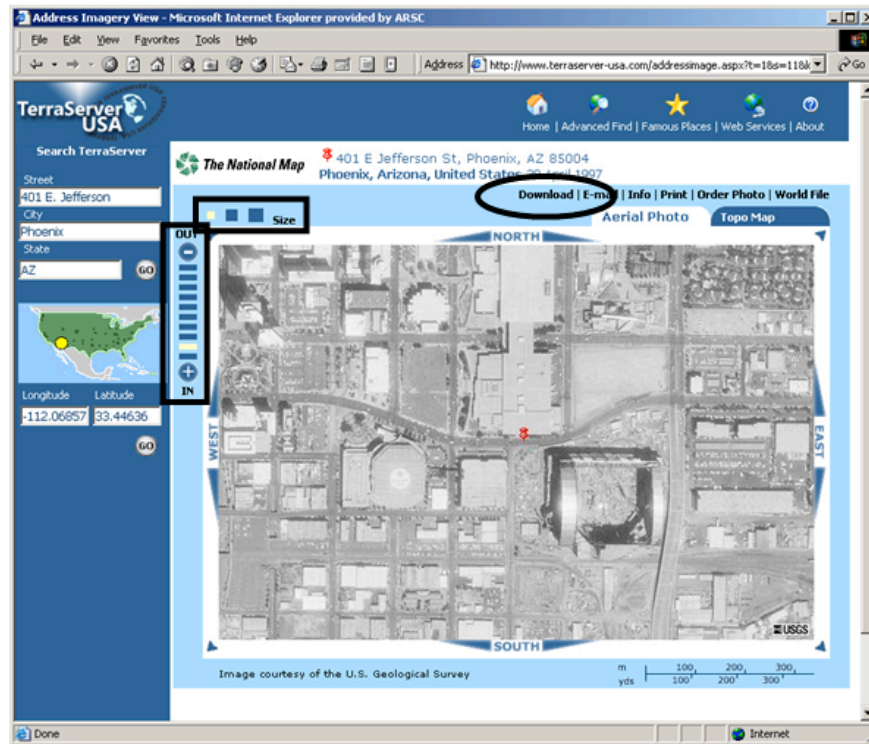
3. You will get the list of aerial photos (DOQQ) and scanned topo sheets (DRG) available for the location you typed. We recommend that you start with the Topo Map.



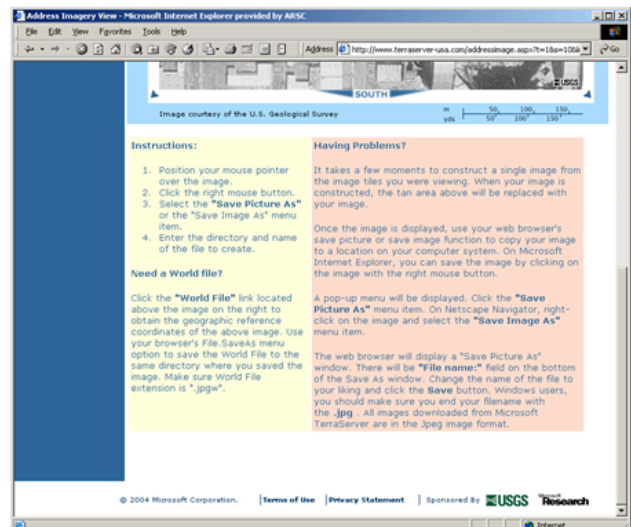
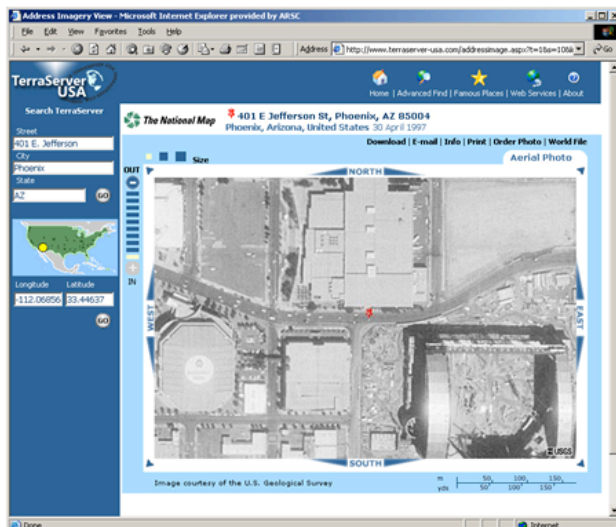
4. The date that the Topo Map was made is displayed above it (see black box below, left). Sometimes, as in our example, the USGS topo maps are old, so opening up other travel maps or even an online map directory in another browser window can help you confirm that you are in the right place. Arrows on the sides and four corners of the image allow you to navigate to nearby areas (see circles below, left).



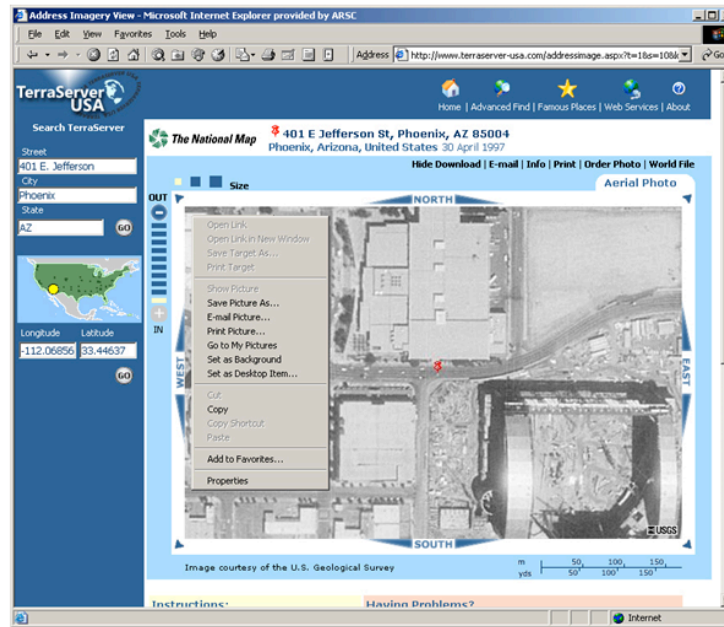
- Click on the tab labeled “Aerial Photo” to see the DOQQ of your location (see circle below). To the left of the image is a scale bar that allows you to zoom in and out. Above and on the left side of the image are three squares. These allow you to change the size of the image’s footprint. This is the *field of view* or the area on the ground that can be seen (see boxes below).



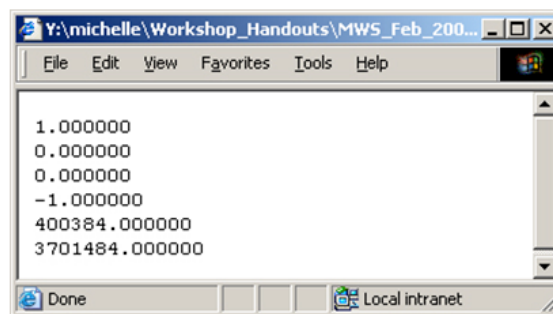
- After your image looks the way you want it to (covers your location, zoomed in to the level you want it), you can click “Download,” which will display download instructions at the bottom of the page that you can scroll to (see box below, left). Alternately, you can follow our directions, given in the steps below.



7. To download your image:
 - a. Position your mouse pointer over the image.
 - b. Click the right mouse button.
 - c. Select the **“Save Picture As”** or the **“Save Image As”** menu item.
 - d. Enter the directory and name of the file to create. Give it a file name that makes sense: PHX_BALLPARK1m_photo97.jpg (Phoenix Chase Ball Park, 1 meter resolution, aerial photo, 1997. We will discuss how to find the photo’s resolution below).



8. Next, it is necessary to geographically register the image to use it with GIS. To do this you need a World File. Look to the upper right for the “World File” link. In most browsers, when you click on the link a window will appear that looks something like the image below. If this does not happen, see step 10.



In this example, the “1” and “-1” represent the spatial resolution (in meters) of the image (which you chose by zooming in or out to your selected level – the more you zoomed in, the finer your spatial resolution became). You can read this as “each pixel of my image represents 1 by 1 meters on the ground.” This is what the “1m” in our file name represents.

9. Save this file in the following way:
 - a. Save the file to the same directory that you saved your image in.
 - b. Make sure the file extension is “.jgw”.
 - c. In order to change the file extension, you may need to change the default “Save as type” drop-down menu from “.aspx Document”, to “**All Files.**”
 - d. Then, re-type the file name in the “File name” menu.
 - e. Give your file the same name as you gave your image except with the “.jgw” file extension. In our case, this would be PHX_BALLPARK1m_photo97.jgw.

10. If the window shown above did not open when you left-clicked on “World File,” right-click on “World File” instead and choose “Save Target As.” Follow the method listed in step 9 to save the file. To view the file you just saved, navigate to the directory you saved it in, double-click on the file and choose Internet Explorer as the “Open with” program.

11. Open My Computer or some other tool to see the directory where you saved the files. Make sure that:
 - a. If the file name for the **image** does not end in .jpg, rename the image file to have the extension “.jpg”.
 - b. If the file name for the **World File** does not end in .jgw, rename the file to have the extension “.jgw”. Also, make sure the **World File has the same name as the image file.**