

# US Topo Users Guide

This guide explains how to access and use US Topo maps and their predecessors, the “Digital Map – Beta.” Additional information about these products is available on the Web at <http://nationalmap.gov/ustopo/index.html>.

US Topo maps include geographically referenced base information from *The National Map* and other sources, including roads, hydrography, contours, and geographic names on an aerial image base. The preliminary version, “Digital Map – Beta,” does not contain hydrographic features or contours. These earlier maps will be replaced by US Topo maps at the time of next updating.

The maps are available on the Web at no cost, in the GeoPDF® format. Free tools allow users to determine coordinates, measure distances and angles between points, measure areas, track positions using a GPS device, display coordinates in various map projections and datums, turn layers on and off, zoom in and out, and print the map image.

## Quickstart

**Prerequisites.** A computer with a recent Windows operating system, Internet access, and Adobe® Reader® software. For full functionality, the TerraGo Technologies Toolbar is recommended.

**Access to US Topo Maps and “Digital Maps – Beta”.** Go to <http://store.usgs.gov> and click on “Map Locator.”

**Locating US Topo Maps and “Digital Maps – Beta”.** Click on the button labeled “Show US Topo and “Digital Maps – Beta” button on the Map Locator page, zoom in, and use the “Mark Points” option to select a quadrangle. Click on the red marker to display a list of available maps.

**Downloading US Topo Maps and “Digital Maps – Beta”.** Click “download” and save the file on your computer. Then unzip the compressed file to open the GeoPDF file.

**Opening the Extracted Map File.** Find the extracted file and click on the file name to display the map. Install TerraGo Technologies Toolbar for full functionality (recommended).

**Using the Map.** Open and close map layers by clicking on the ‘eye’ icon in the layers list. Expand and collapse the layers by clicking on the ‘+’ and ‘-’ icons. Use the Adobe and TerraGo Technologies Toolbar menus and tools to zoom, pan, display coordinates, measure, and perform other operations on the map image.

**Printing.** Select “File” and “Print” in the Adobe menu bar.

## Prerequisites

These instructions are written for the Windows operating system on a personal computer. Windows® XP, Windows Server™ 2003, Windows Vista™, or Windows® 7 are required. Internet access is required; broadband access is highly recommended. Users employing other operating systems will be able to access and display US Topo maps and “Digital Maps - Beta” but may not have full geospatial functionality.

Adobe® Reader® software is required and may be downloaded for free at <http://get.adobe.com/reader/>. Adobe Acrobat® software may be used in lieu of Adobe Reader, if available.

TerraGo Toolbar, a plug-in for either Adobe Reader or Acrobat, is required for full geospatial functionality. The download and use of the TerraGo Toolbar are free. To download, go to <http://usgs.terragotech.com/home/>. Note: Prior to installation, please refer to the TerraGo Toolbar requirements for compatible versions of either Adobe Reader or Acrobat. Adobe Reader or Acrobat must be installed prior to installing the TerraGo Toolbar. The TerraGo Toolbar will display as a set of red icons above the Layers list.

## Locating US Topo Maps and "Digital Maps – Beta" Through the USGS Store

At the “[Map Locator](#)” page of the USGS Store, select the orange “Show US Topo and Digital Maps – Beta” button below the map graphic. When selected, a layer showing the available US Topo maps will appear in red. The older “Digital Maps – Beta” will appear in yellow. By zooming in a location, the map cells become quadrangle outlines filled with red or yellow hatching. Use the “MARK POINTS” option to select the desired quadrangle. Click on the red marker that marks the selected quadrangle to display a list of available maps for that quadrangle.

You can also search for USGS quadrangles by quadrangle name or by address/place. *Note: National coverage of US Topos will require some time to complete.* A [graphic](#) showing planned coverage is at <http://nationalmap.gov/ustopo/about.html>.

## Downloading US Topo Maps and "Digital Maps – Beta"

Click “download” for the selected map, then click “Save” to save the downloaded file to a directory and file name you specify on your local hard drive. The map is delivered to you in a compressed zip file (.zip). To access the map file contained therein, unzip and extract the file. Please note the possibility of file corruption exists if the file is not extracted properly from the zip file.

To unzip and extract the map file from a compressed zip file:

1. Locate the compressed zip file from which you want to extract the GeoPDF.
2. Right-click the compressed zip file, click Extract All, and then follow the instructions.

You can also use your favorite third-party compression utility to unzip and extract files. Please follow their instructions on how to properly unzip and extract files.

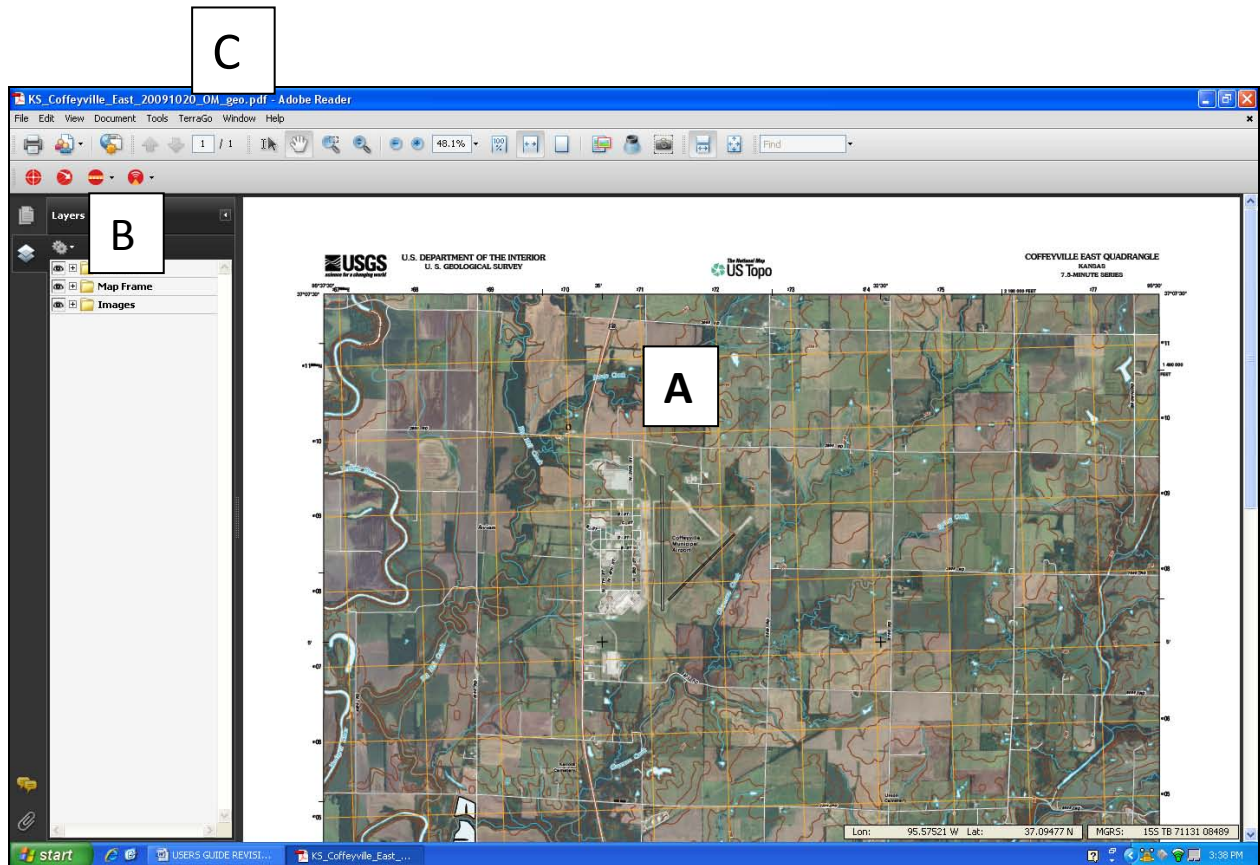
More information about using compressed zip files in the Windows environment can be found in your Windows help or go to <http://windowshelp.microsoft.com/Windows/en-US/Help/7050d809-c761-43d4-aae7-587550cd341a1033.msp#EEB>. Additional information about the Zip (file format) is available at [http://en.wikipedia.org/wiki/Zip\\_file](http://en.wikipedia.org/wiki/Zip_file).

## Opening the Extracted Map File

Find the extracted file on your hard drive. Double click on the file icon or name to open the file. The map will open in an Adobe Reader (or Adobe Acrobat, if installed) window.

If the TerraGo Toolbar hasn't already been installed, you will be offered an opportunity to download and install at this time. This [download](#) is free and installation is only required once. These tools supplement Adobe Reader capabilities by providing added capabilities to use the US Topo or "Digital Maps - Beta." More information is available at <http://www.terragotech.com/products/terragotoolbar> under "TerraGo Toolbar."

After the file has been opened and the TerraGo Technologies tools have been installed, your Adobe Reader screen should look like this:



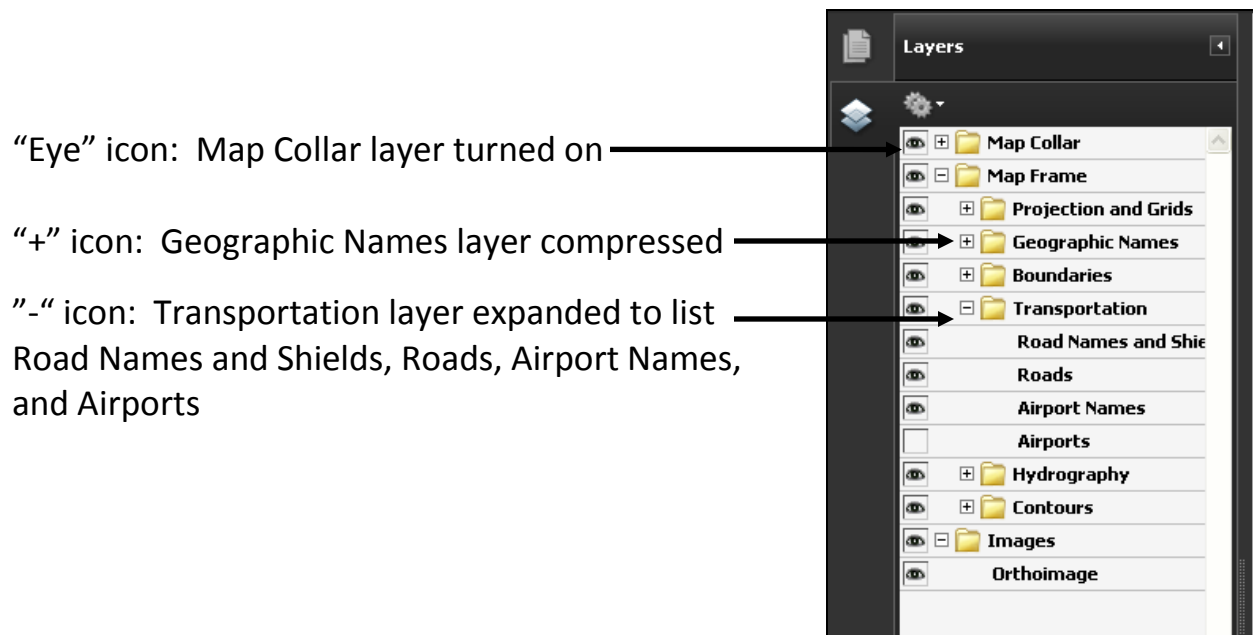
## Using the Map

The screen has three sections:

- A. Map image
- B. Listing of map layers, and
- C. Adobe Reader and TerraGo Technologies menus and tools.

### Layers

- Left click on the “eye” icon to turn a layer off in the map image.
- Left click on the box where the “eye” icon was to turn the layer back on.
- Left click on the “+” icon to expand the list of layers. Note that you can turn these subordinate layers on or off by clicking on the “eye” icon/box, as above.
- Left click on the “-“ icon to collapse the list of layers.



It may take a few seconds for the map image to refresh when the layer selection is changed.

To turn on tools, left click on “View” then on “Toolbars” and then on “More Tools.” Check the box next to “Select and Zoom Toolbar” and then check the boxes next to the tools you want to turn on in the toolbar (such as “Marquee Zoom” and “Hand Tool.”) Clicking the right mouse button within the map image also will open a window within which some tools can be selected.

### Zoom In and Out

The options for zooming are:

- Click on the “+” and “-“ icons in the Adobe toolbar (Section C),
- Enter a percent in the window to the right of the “+” icon in the Adobe toolbar and press “Enter”,
- From the “Tools” pull-down menu at the top of the screen, choose “Select & Zoom”. Select “Marquee Zoom” from the flyout menu. Place the cursor over the area of interest on the map and hold down the left mouse button to create a zoom rectangle over the desired area.

- If the “Marquee Zoom” tool has been turned on as described above, select that tool from the menu bar.

The map image can be reset to show the entire quadrangle by clicking on the arrow to the right of the percent box on the Adobe toolbar and selecting “Fit Page”

## Pan

To move around the map image, click on “Select & Zoom” from the “Tools” pull-down menu at the top of the screen. Choose “Hand Tool” and then reposition the cursor over the map and left click the mouse. Then hold down the left mouse button and move the cursor around the map to reposition the image. (Notes: you cannot pan if the map display shows the entire map image. If you have already turned on the “Hand Tool” as described above, select that tool from the menu bar.)

## TerraGo Toolbar Tools



GeoTool – Locks/unlocks coordinates, Google™ Map It, and launches other GeoPDF tools.



GeoLocator – Shows and finds coordinates and provides the ability to modify coordinate system displays.



GeoMeasure – Measures either length or area.



GeoTrack – Displays the current position of an attached GPS device.

Note: The TerraGo Collaboration tool (replaced the GeoInfo tool in TerraGo Toolbar Version 5.0) imports, exports, and deletes data. TerraGo Collaboration is not currently available for use in Adobe Reader because US Topo and “Digital Map – Beta” GeoPDF files do not yet support this tool.

Complete information on using the GeoPDF tools is explained in depth in the TerraGo Toolbar help. If you need further assistance in using TerraGo Toolbar, access the Knowledgebase or Tutorial sections found in the navigation panel on the left side of the TerraGo Technologies Support Web page at <http://www.terraqotech.com/support/index/> or by viewing the Tutorial Video at <http://www.terraqotech.com/products/terraGo-toolbar>.

## Printing

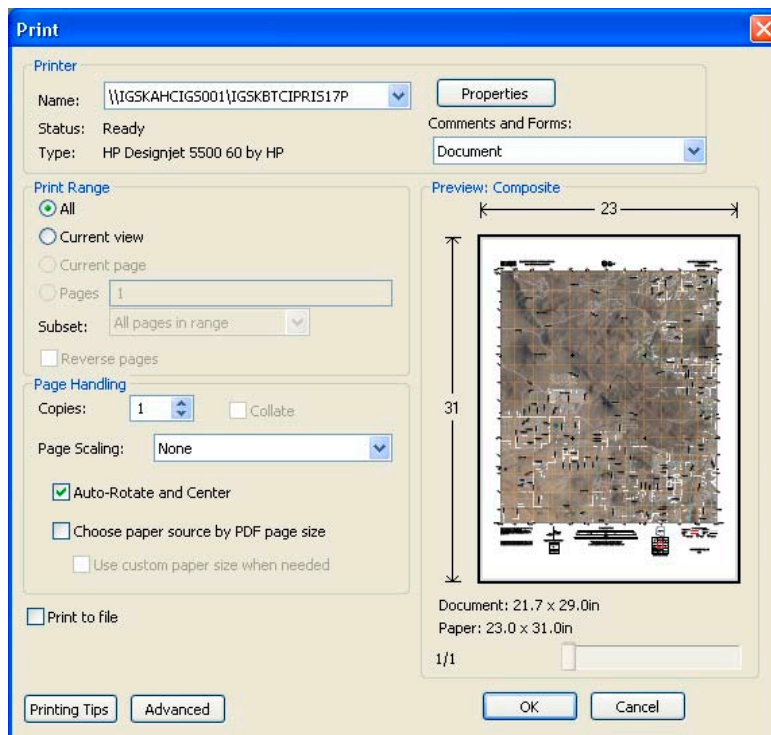
Printing uses the Adobe Reader Print dialog box. Select “File” from the Menu bar and then select “Print” or type “Ctrl+P” on your keyboard or click on the “Printer” icon on the toolbar to open the Print dialog box.

### Printing - Option 1

To print the entire map at 1:24,000-scale, open the Print dialog box, then:

1. In the “Printer” section of the Print dialog box
  - a. Select the printer to be used from the Printer Name drop down list. A large format graphics printer/plotter is required to print the entire map at 1:24,000-scale.
  - b. Select the “Properties” button to access the properties panel for the selected printer/plotter. Define the paper page size. Make sure the printer/plotter paper page size is large enough to accommodate both the map page size and the nonprinting margins for the selected printer/plotter combined. Also at this time the other settings can be defined. Select “OK” to return to the Adobe Reader Print dialog box.
  - c. Using the drop down list in the “Comments and Forms:” dialog, set it to “Document.”
2. In the “Print Range” section of the Print dialog box select the “All” radio button.
3. In the “Page Handling” section of the Print dialog box, make the following selections.
  - a. Set the number of copies needed using the “Copies” dialog.
  - b. Set the “Page Scaling” drop down list to “None.”
  - c. Check the box next to “Auto-Rotate and Center.”

After following all of the steps above, the Adobe Reader Print dialog box should like the following:



Note that the “Preview: Composite” section shows the entire map fits within the paper size defined in step 1b above.

4. Click on the “OK” button to send the map to the selected printer/plotter.

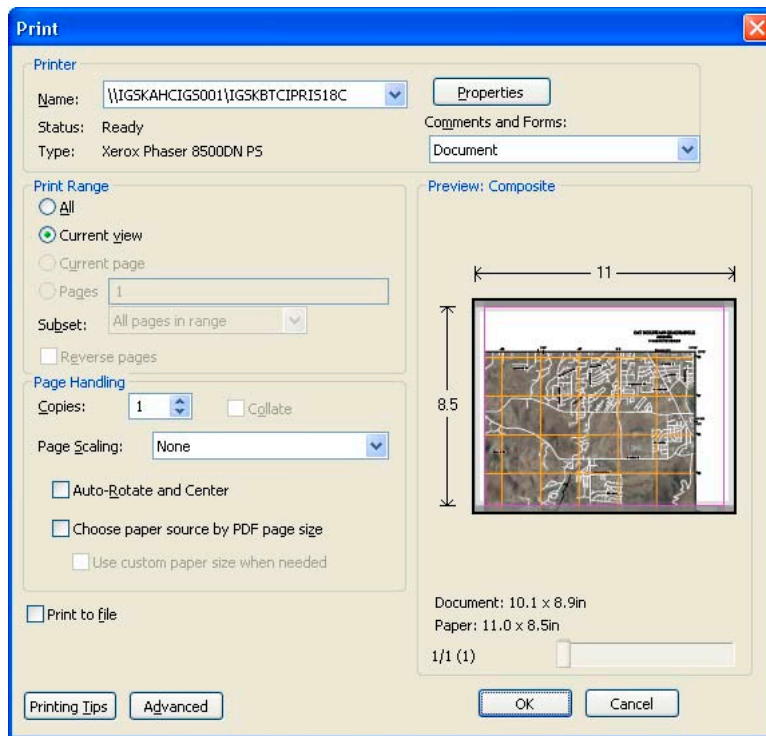
## Printing – Option 2

If you do not have access to a large format graphics printer/plotter to accommodate the entire map page size or if you simply want to print a portion of the map at 1:24,000-scale on a smaller piece of paper, position the map in the Adobe Reader window. To print the exact desired part, move the map and zoom in or out to the area you want to print. Then set magnification in Adobe Reader to 100%. (Note: you can set the magnification higher, but that actually lessens the overall area to be printed.) Then open the Print dialog box.

1. In the “Printer” section of the Print dialog box:
  - a. Select the printer to be used from the “Printer Name” drop down list.
  - b. Select the “Properties” button to access the properties panel for the selected printer. Define the paper page size and desired page orientation. Also at this time the other printer settings can be defined. Select “OK” to return to the Adobe Reader Print dialog box.
  - c. Using the drop down list in the “Comments and Forms” dialog, set it to “Document.”
2. In the “Print Range” section of the Print dialog box select the “Current view” radio button.
3. In the “Page Handling” section of the Print dialog box, make the following selections.
  - a. Set the number of copies needed using the “Copies” dialog.
  - b. Set the “Page Scaling” drop down list to “None.”
4. Check the “Preview: Composite” section to see if the desired area to be printed is what is wanted.

The size of the Adobe Reader window, position of the map within the Adobe Reader window, or both may need to be adjusted to get the area desired for printing. Also, if you are zoomed in further than 100% you may have to zoom out to get the desired area for printing.

After following all of the steps above, the Adobe Reader Print dialog box should look like this:



Note the “Preview: Composite” section, shows the desired portion of the map that will print on a landscape 8.5 x 11 inch paper size defined in step 1b.

5. Click on the “OK” button to send the map to the selected printer.

### Printing – Option 3

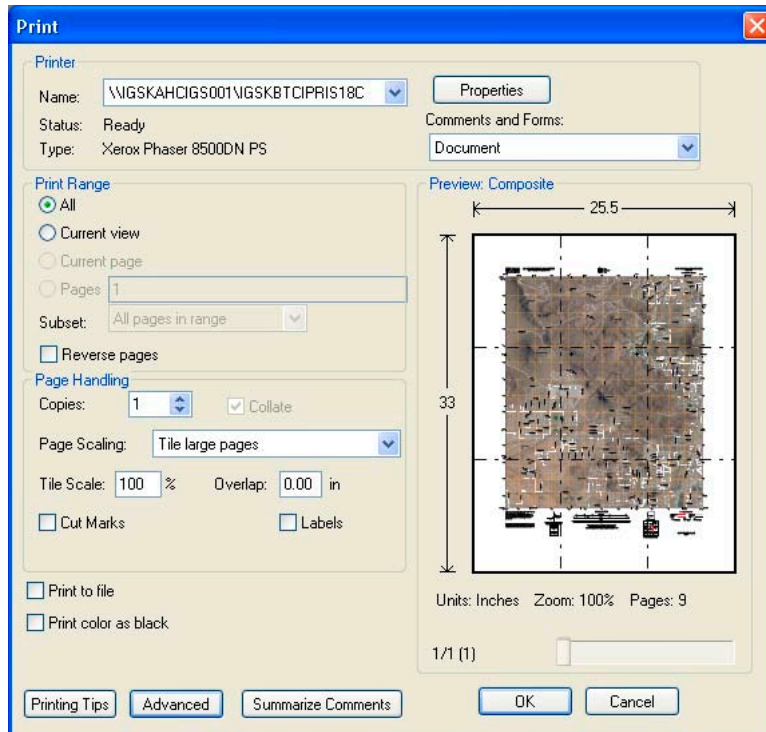
If Adobe Acrobat is the program being used (not the free Adobe Reader) the capability to print the entire map on smaller pieces of paper is available. Open the Print dialog box, then:

1. In the “Printer” section of the Print dialog box
  - a. Select the printer to be used from the “Printer Name” drop down list.
  - b. Select the “Properties” button to access the properties panel for the selected printer. Define the paper page size and desired page orientation. Also at this time the other printer settings can be defined. Select “OK” to return to the Adobe Reader Print dialog box.
  - c. Using the drop down list in the “Comments and Forms:” dialog, set it to “Document.”
2. In the “Print Range” section of the Print dialog box select the “All” radio button.
3. In the “Page Handling” section of the Print dialog box, make the following selections.
  - a. Set the number of copies needed using the “Copies” dialog.
  - b. Set the “Page Scaling” drop down list to “Tile large pages.”
  - c. Set the “Tile Scale:” to 100%
  - d. Set desired “Overlap:”. (Overlap specifies the minimum amount of duplicated information printed on each tile for ease in assembly. The “Overlap” option uses the unit of measure specified for the document. The value should be greater than the minimum nonprinting margins for the printer. You can specify up to one-half the size of the shortest side of the document page to overlap. For example, tiles for a page that measures 11-by-17 inches (279.4mm-by-431.8mm) can overlap up to 5.5 inches (139.7mm).



- e. Check “Labels” if desired. (Checking “Labels” prints the PDF name, date of printing, and tile coordinate on every sheet. For example, Page 1 (1,1) means row 1, column 1 of the first page. Tile coordinates are used for reassembling the tiles.
- f. Check “Cut Marks” if desired. (Checking “Cut Marks” prints marks on each corner of a tiled page for ease of assembly. Use this option in conjunction with the Overlap option. When an overlapping edge is specified and the edges are superimposed, you can use the cut marks to line up the tiles.

After following all of the steps above, the Adobe Acrobat Print dialog box should look like the following:



Note the “Preview: Composite” section shows the tiles of the map that are to print on 8.5 x 11 inch paper size in portrait orientation, as defined in step 1b.

4. Click on the “OK” button to send the map to the selected printer.

For information on additional printing options or other use issues for Adobe Reader or Adobe Acrobat, access the “Help” pages from “Help” on the Menu bar or press the F1 key. Also, you can visit the appropriate Adobe Product Support Center at <http://www.adobe.com/support/>.

## Additional Information

More information about US Topo maps and their use is available on the Frequently Asked Questions (FAQ) page at <http://nationalmap.gov/ustopo/faq.html>. FAQ answers address more advanced topics such as mapped features and program and policy matters that are beyond or outside of the scope of this Users Guide.

## Thanks

Thank you for your interest in the new USGS topographic maps. The US Topo is an evolving product. The USGS will continue to add more data layers and enhanced functionality. We value

your feedback and invite you to send your suggestions to [http://nationalmap.gov/ustopo/ustopo\\_feedback.html](http://nationalmap.gov/ustopo/ustopo_feedback.html) or click the "Contact Us" tab on the [US Topo home page](#).

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**Last updated January 8, 2011**