

1. What is TOPO! for ArcGIS, Multi-layer edition?

TOPO! for ArcGIS, Multi-layer edition is a software extension that adds functionality to ESRI ArcGIS products. The product allows ESRI GIS users to quickly, efficiently, and reliably import USGS topographic maps, hillshading, or digital elevation models (DEMs) into existing projects. One step adds crisp, presentation-quality raster images into seamless map layers. Edge-matching maps, file appending, raster reprojecting and map collar removal are no longer necessary.

2. What solution does it provide?

TOPO! for ArcGIS, Multi-layer edition minimizes time spent on image processing, reduces user error, and streamlines the workflow, resulting in improved efficiency and significant time savings for GIS users. The ArcGIS map extension adds a toolbar that simplifies and automates many repetitive tasks associated with working with raster files. These include: identifying the files required, acquiring the USGS raster data, importing, file appending (e.g. cataloging and reprojecting the data, cropping borders or margins, etc.), writing a header file describing location and projection, edge-matching the maps, and creating an image catalog to contain each map image.

3. How does it work?

TOPO! for ArcGIS, Multi-layer edition extracts the required maps from TOPO! State Series CD-ROMs and imports them into an ArcGIS project. The user clicks the extension button on the ArcMap toolbar, defines the map coverage area, inserts the requested CD-ROM, and the file is automatically imported into the map coverage. The extension manages the necessary image, header, and catalog files needed to create seamless images and to store the data on the hard drive. The scanned USGS 1:24,000-scale (7.5-minute quadrangle) and 1:100,000-scale topographic maps, hillshading, and DEMs are imported as separate layers that can be adjusted separately for desired effect (e.g. level of transparency, visible scale ranges, color ramps, etc.). Users can add or remove maps from the layer using the editing tool on the extension tool bar. Once the layers are complete, the maps may be saved to a local directory.

4. What are the key features of TOPO! for ArcGIS, Multi-Layer edition?

- ESRI integration: This is the only topographic map solution integrated with ArcGIS as an extension.
- Very simple to use: With a few clicks to define the area, data is extracted automatically from TOPO! State Series CD-ROMs.
- The gold standard in base maps: Most map-minded people are familiar with USGS topographic maps. They provide a trusted and pleasing backdrop for your GIS data.

- Access to complete U.S. coverage, packaged by state or region: State Series data sets are sold on CD-ROMs. Each set includes complete 1:24,000 and 1:100,000-scale USGS maps (except AK).
- Crisp image resolution: Each map is hand-scanned in a process that results in crisp, color-corrected images stored in millions of colors. The result is a map that is very pleasing to look at and can produce presentation-quality prints and output.
- Grayscale hillshading: Toggles on and off to provide realistic topographic map images.
- USGS DEM information: The database is compiled from the USGS National Elevation Dataset (NED) using 1-arc-second DEM data (approximately equivalent to 30-meter resolution DEMs).
- Spatial Accuracy: The maps, DEMs, and hillshading merge together in one seamless geodetic framework with few visible boundary lines. The result is a spatially accurate data layer — for one or many maps — that will overlay other data sets smoothly. The maps are projected on the fly to match the dataframe properties found in the first data layer.

5. How large are the file sizes of images created with the extension?

Image file sizes are minimized using a tiling scheme and integrated image cataloging. For example, a full color quad with hillshade is under 1 MB in size. The map images are stored in a proprietary file format called .tpq. ArcGIS recognizes this file as a raster image format, similar to a “.tif” or “.jpg” format.

6. What is the difference between TOPO! for ArcGIS Multi-layer edition and TOPO! Image Support for ArcGIS?

The *TOPO! for ArcGIS, Multi-layer edition* extension allows you to import the topographic maps, hillshades, and DEMs as separate layers that can be manipulated individually. The *TOPO! Image Support extension* does not include hillshading and DEM functionality. Both products allow the user to import seamless, presentation-quality topographic maps from the TOPO! State Series CD-ROMs.

Note: The *TOPO! for ArcGIS Multi-layer edition* is not compatible with ArcView 3.x (see below for compatibility).

7. What ESRI product(s) does TOPO! for ArcGIS, Multi-layer edition work with?

TOPO! for ArcGIS Multi-layer edition runs on ArcView 8.x, ArcEditor 8.x, or ArcInfo 8.x software. *TOPO! Image Support* works with ArcView 8.x/3.x, ArcEditor 8.x, or ArcInfo 8.x software.

8. What are the operating system requirements of TOPO! for ArcGIS Multi-layer edition?

The platform requirements are the same as all ESRI ArcGIS products.

9. What non-ESRI products are required?

The extension imports data from TOPO! State Series CD-ROMs (sold separately).

10. In what file format does the extension save the map images?

The map images are stored in a proprietary file format called .tpq. The extension allows ArcGIS to recognize this file as a raster image format, similar to a “.tif” or “.jpg” format.

11. What resolution are the maps used in the TOPO! for ArcGIS extension?

Each map is hand-scanned at 200 dpi resolution, color-corrected, then saved in the “millions of colors” palette option.

12. What is the spatial accuracy of the DEM information?

The database is compiled from the USGS National Elevation Dataset (NED) using 1-arc-second DEM data (approximately equivalent to 30-meter resolution DEMs). The maps, DEMs, and hillshading merge together in one seamless geodetic framework with few visible boundary lines. The result is a spatially accurate data layer — for one or many maps — that will overlay other data sets smoothly. The maps are projected on the fly to match the ArcMap dataframe properties found in the first data layer.

13. What kind of GIS users use this product?

The TOPO! extension will appeal to most GIS users. Since most map users are familiar with USGS topographic maps, TOPO! is essential for any GIS user who needs seamless topographic background images for mapping or presentation purposes. Please contact National Geographic for referrals in your specific industry.

14. Please describe the documentation, training, and user support that you offer.

A .pdf user guide is included on the installation disk. National Geographic offers technical support at no charge via phone Monday – Friday, 8:30 a.m. – 4:30 p.m. Mountain Time, or by email at topo@ngs.org.

15. Do you offer on-site or customized implementation services?

Implementation services are not necessary, given the simplicity of the product.

16. What is the difference between National Geographic TOPO! data and DRGs available from the USGS?

Digital Raster Graphics (DRGs) from the USGS are stored as 8-bit color images that can appear fuzzy or pixilated. National Geographic TOPO! data is saved with the “millions of colors” palette option. DRGs have map collars and are projected to UTM making it difficult to edge-match maps and create seamless coverages.

17. How much does it cost?

TOPO! for ArcGIS Multi-layer edition, single user license \$999.95

TOPO! Image Support for ArcGIS, single user license \$499.95

TOPO! State Series CD-ROMs, single user license \$99.95 each

Prices are subject to change

18. Is multi-user pricing available?

Multi-seat, network, and enterprise pricing is available and is very competitive. Contact National Geographic Maps for more details at (800) 962-1643 ext. 101.

19. What about educational pricing?

National Geographic supports K-12 and higher education with discounted pricing. Contact National Geographic Maps for more information at (800) 962-1643 ext. 101.

20. Who should I contact for more information?

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