GIS Tips & Tricks

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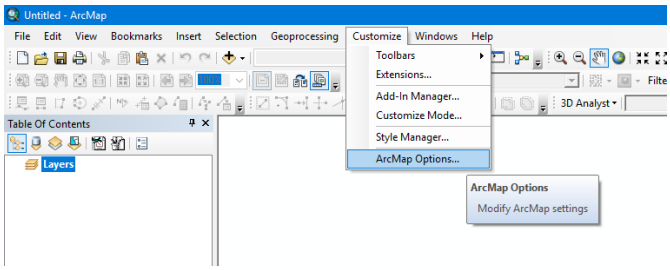
GIS Display Slowing you Down?

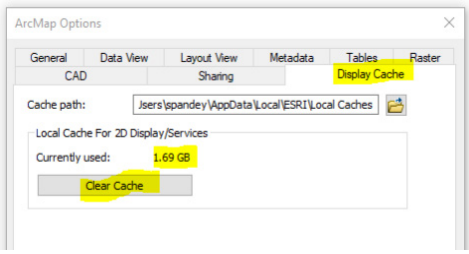
No matter whether you use GIS in the private, public, or education sector, the system is never fast enough. Whether you need a faster video card, more RAM, a faster CPU, there is always something slowing you down. And to be very honest, how many times have you wished that ArcGIS, either the Desktop or ArcGIS Pro was running faster? While there is not much that we can do through this column to upgrade your hardware, here are a couple of tips to help you optimize your video/display settings and hopefully increase your productivity. Although the tips are directed at the Esri suite of software, productivity in most GIS packages can decrease as a result of similar issues.

Tip #1: Clear your Display Cache—The display cache is a local disk cache on your computer that stores data for basemap layers, tiled images from cached map services from ArcGIS for Server, tiled images from other Internet map services, and the ArcGIS globe cache. ArcGIS for Desktop uses this display cache to help manage and improve display performance in ArcMap. Over time, the contents in your local cache can become out of date and the local display cache can consume significant disk space on your local computer which can slow down performance.

To clear the Display Cache, on the ArcMap Toolbar, go to Customize | ArcMap Options:



Then use the Display Cache Tab to manage the Display Cache Memory.



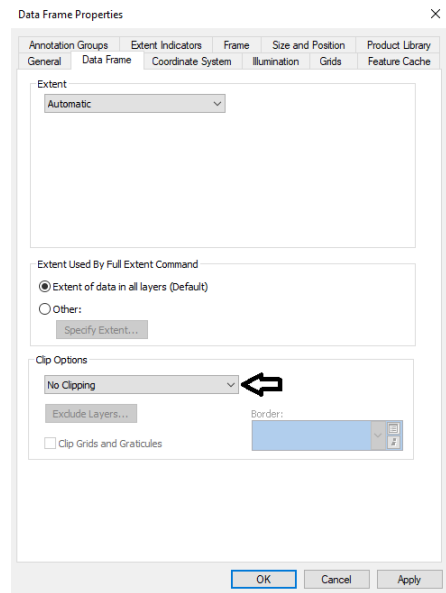
If the "Currently Used:" is reporting more than a gigabyte or so, use the "Clear Cache" button to clear the memory.

NOTES:

1. If you want to direct the Display Cache to a specific folder, you can use the "Cache Path:" browser to specify that folder.
2. Be careful to save your document BEFORE clearing the Display Cache or specifying an alternate cache path as clearing the cache may freeze your ArcMap session.

Tip #2: Set a Display Clip on your map—The Display Clip restricts what ArcMap draws in your map. This does NOT actually "clip" your data; it just filters the data out of the map frame using a geographic boundary. It is best to have that geographic boundary as either a shapefile or a feature class. To set a Display Clip:

1. Select the shapefile or a set of tiles (if you are working with tiled data) to be the geographic extent of the display data (for this example, I made a shapefile called "DisplayClip.shp"),
2. Select the Data Frame Properties | Data Frame Tab and notice the "Clip Options". It will most likely indicate "No Clipping" as below:



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Photogrammetric Engineering & Remote Sensing
Vol. 87, No. 1, January 2021, pp. 9–12.
0099-1112/20/9–12

doi: 10.14358/PERS.87.1.9

geological slant throughout the book, this should in no way be considered a flaw or a deterrent to its use.

The authors present the reader with a good educational tool, developing the topics in such a way to whet one's appetite for deeper knowledge. It is innovative in that the examples of applications are obviously derived from projects. This fresh, project-centric feel is contextualized as the locations of examples of use cases illustrated throughout the book are shown in maps on *Appendix B*. The material lends itself to be organized in the fashion of a story map, thus offering the opportunity to contribute to the integration of GIS and remote sensing as part of the curriculum. Abundant, on-line companion materials are made available to support the docent planning to utilize this textbook in his/her classes. *Appendix C* in the book informs the reader of the *Remote Sensing Digital Database*. In addition to that resource, a *Digital Image Processing Lab Manual*, and *Introductory and Instructional Videos and Answer Keys* can be found at: http://waveland.com/Sabins-Ellis.

Possibly, this textbook could be used in more than one introductory course in remote sensing at the college or university level– with the caveat that the eBook version may be more manageable than the printed one. Its use may have to be complemented and/or expanded with more subject-specific materials, particularly if the emphasis on geology is found to be sidetracking or distracting. Alternatively, when in the library of a professional, this book can be a valuable resource to be used in outreach to, and professional development of practitioners in either the geospatial domain or other fields.

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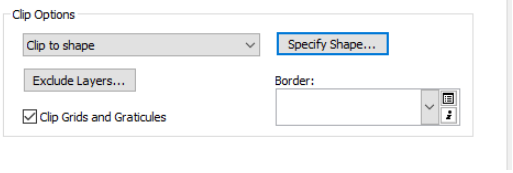
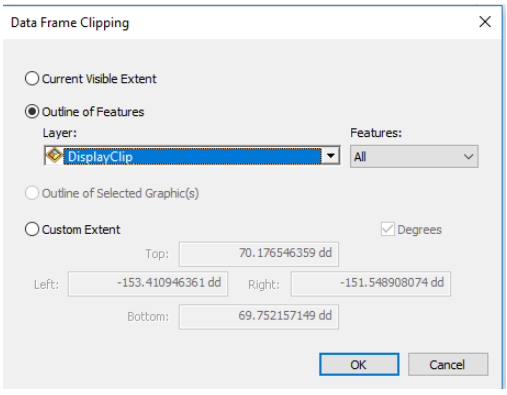
3. Select the "Clip to Shape" from the dropdown and specify the shape



4. Use the "Outline of Features" button and select the geographic boundary from the layer dropdown (remember I made a shapefile called "DisplayClip.shp".)



5. Press the "OK" and "Apply" to closeout the dialogs. Now ArcMap will only display the features in your map that fall inside your selected area.

NOTES:

1. If there is some layer that you want to be excluded from being clipped, you can return to the "Clip Options" dialog and use the "Exclude Layers…" to specify those map layers to exclude from the Display Clip.
2. The Display Clip settings are persistent, so when you are finished with the ArcMap session, remember to return to the Data Frame Properties | Data Frame Tab and turn off the Display Clipping by returning the Clip Options to "No Clipping" or you might be surprised as to why you are not seeing the entire map the next time you open the map document.

Of course, these tips may not speed up your display as much as an upgraded video card, but they are a lot less expensive and well worth a try. They might even increase your productivity.

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