

GIS Tips & Tricks

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Disappearing Layers? – Here’s a Quick Fix

For those who have been following this column, I frequently turn to my work colleagues or my students for Tips & Tricks with various GIS software packages. This month’s “tip” originated with an issue encountered by several of my students. While I encourage them to use the Esri Basemaps for their work and, of course, although I advise them to use the “light gray” or other simple basemaps as backgrounds for their data, many prefer to use images as backgrounds for their maps.

After making multiple maps over a period of several weeks, the students started noticing that vector layers (feature classes or shapefiles) would disappear. When the image basemap was disabled, the vector layers would suddenly reappear. I call this the “Disappearing Layer Syndrome”. After several frustrating trials, they could not make both the vectors and the basemap appear simultaneously on their maps. What could be happening?

If you have ever had this syndrome, or when your GIS software starts to run really slowly the solution is really simple. What is happening is that the computer’s memory cache dedicated to software has been consumed. To repair the issue, just clear the cache manually.

FOR ARCGIS DESKTOP

To manually clear the cache in ArcGIS, Use the Customize | ArcMap Options (as in Figure 1).

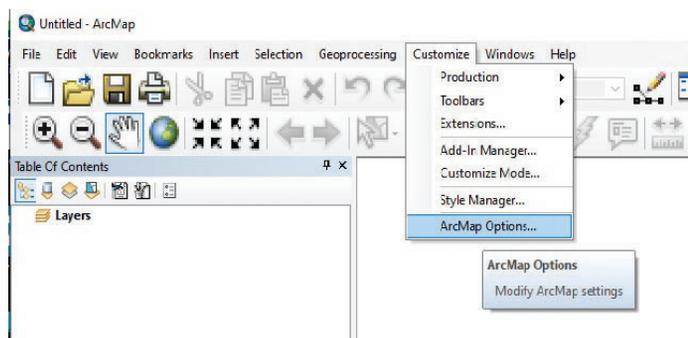


Figure 1. Selecting the ArcMap Options in ArcGIS 10.8.

And then choosing the “Display Cache” Tab from the menu options. As in Figure 2, this tab will show you how much memory is being used and by pressing the “Clear Cache” button, you will manually clear the cache. I recommend checking this area regularly, and clearing the cache when the

“Currently Used” value exceeds 200 MB. Of course, you can experiment on your computer to find the optimum cache size.

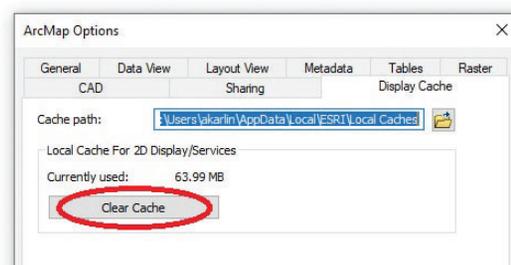


Figure 2. The Display Cache Tab on the ArcMap Options window shows that I am currently using about 64MB of memory.

FOR ARCGIS PRO

Use the “Project” tab and select “Options” to activate the Options menu. Then choose “Display” to show the display options. In the example below (Figure 3), my application is currently using almost 500 MB of cache (remember, this is ArcGIS Pro, a 64-bit application). By checking the box, it will clear that memory.

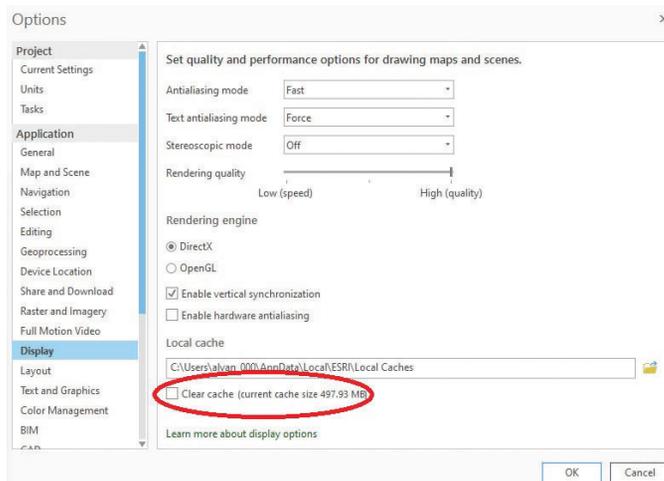


Figure 3. Using the Options | Display menu to clear the cache in ArcGIS Pro.

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Team, Royal Engineers. 1983-86 'Operation Algom' – major support for the Survey Department was received from the Royal Australian Survey Corps. This involved a Doppler campaign throughout the islands, new aerial photography, readjustment of the DOS and IGN trig networks on WGS84 and setting up a map production facility in the Survey Department. 1980s-1990s New Editions of the DOS 1:1,000,000 map were produced by the Survey Department, also a new 1:50,000 series. The Vanuatu Map Grid was introduced, a national TM projection to replace the assorted island grids that existed previously. The Survey Department produced a brief paper in about 1976/77 that discussed the significant differences between DOS and IGN positions in the New Hebs (nearly a km in the northern islands if I recall correctly). Those discrepancies weren't solved – or circumvented – until OP Algom, but the Survey Department did develop a TM grid (called Éfaté TM 77) for the main island, Éfaté or (Vaté), in 1977 to improve the control situation there by unifying disparate surveys and replacing the old Cassini grid. Both DOS and IGN used International Spheroid, but had datums in different places, and trig block boundaries in different places – the DOS North Block was islands North of Éfaté, and South Block was Éfaté and islands south. IGN had a North Block (Éfaté and islands North) and South Block (Erromango to Aneityum). I think the most northerly island in the New Hebs, the Banks and Torres Islands, were not reached by either the DOS or IGN networks and had local astro fixes only."

The National Geospatial Intelligence Agency (NGA) lists the transformation parameters from the Santo (DOS)1965 Datum (Espiritu Santo Island) to the WGS84 Datum as: $\Delta a = -251\text{m}$, $\Delta f = -0.14192702$, $\Delta X = +170\text{m} \pm 25\text{m}$, $\Delta Y = +42\text{m} \pm 25\text{m}$, and $\Delta Z = +84\text{m} \pm 25\text{m}$. This relation is based on observations at one station. Thanks to John W. Hager; Russell

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In QGIS and other GIS software—QGIS and several other GIS software packages allow you to clear the cache through Python or directly through the command line. For QGIS, the command would look like:

```
rm -rf ~/.qgis2/cache/data7
```

Here is a link for additional help for QGIS:

<https://gis.stackexchange.com/questions/356704/how-to-clear-the-cache-of-qgis-3-10-with-python>

It is that easy to solve the "Disappearing Layer Syndrome".

Send your questions, comments, and tips to GISTT@ASPRS.org.

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Fox; Tony Kanas, surveyor; and, the Vanuatu Department of Land Surveys for their generous assistance.

Vanuatu Update

In 2014, the U.S. Department of State published No. 137 Limits in the Seas, *Vanuatu: Archipelagic and other Maritime Claims and Boundaries*. Coordinates are shown to four decimal places of arc seconds, and all connecting lines are defined as geodesics. No datum, ellipsoid, nor International Terrestrial Reference Frame date is stated.

Vanuatu Geodetic Control Network Report, Mike Bakeoliu, Tony Kanas, Moses Kalsale, 09 June 2001.

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