

<https://ftp.setterholm.com/Geodesy/FultonMD/FultonMD-1959-HighRes-3D.pdf> = this document.  
Jeff Setterholm Lakeville, MN 2021.10.13 -> Rev. A 2021.10.18

**The link to the public domain version of the 3D aerial image is:**

<https://ftp.setterholm.com/Geodesy/FultonMD/FultonMD-1959-qVP-HighRes-RedCyan3D.jpg>

The 8080 x 13412 pixel red|cyan stereo image is scaled to 1.05 meters/pixel; hence the image is 5.27 miles wide and 8.75 miles high; & is approximately North-up. Burtonsville, MD is above the bottom center of the image and Clarksville, MD is below the top center of the image. Since the left and right eye views are overlaid, the image effectively has ~ 216 million pixels, including the borders... detailed grayscale 3D spatial information at a minute of time in late 1959 for about 25,500 acres of southern Howard County, Maryland. The 3D vertical dimension is exaggerated as a result of the relative geometries of the camera when the two aerial images were taken. The view corresponds to looking at a real 3D object that's about 3.15 inches in front of your eyes. Old stereo aerial images of places that interest you could be similarly transformed.

I transformed (~warped) the image to support “quantitative Visual Presence”, as introduced in: <https://ftp.setterholm.com/Geodesy/quantitativeVisualPresence11.pdf> . The derivation of the user's transformation is here: <https://ftp.setterholm.com/Geodesy/qVPMath12-AppendixA-20091211.pdf>

The quantitative homogeneous coefficients for the high-resolution image are here:

<https://ftp.setterholm.com/Geodesy/FultonMD/FultonMD-1959-qVP-HighRes-RedCyan3D.txt>

Anticipate that 3D surveying results will be less accurate than using my lower resolution 2009 FultonMD qVP image as described in:

<https://ftp.setterholm.com/Geodesy/FultonMD/FultonMD-1959-qVP-RB-ReadMe.txt>

The two source images were taken by the USGS/USAF on December 14, 1959 from 30,000'. The resulting 9" x 9" negatives which I purchased from USGS were scanned for me by Martinez Corp. at 8 micrometers/pixel (i.e. 3175 pixels/inch) on 2003.03.27. A full-resolution 3D overlay of a small patch of the two scans (Miss Sarah's place, across the road from my family's home) is shown in:

<https://ftp.setterholm.com/Fulton/MooresField-1959-RedCyan.jpg>

Southern Howard County has developed extremely rapidly in the last 60+ years. The 1957 USGS quarter-quad topographic map closely resembles the content of the 3D image:

[https://ftp.setterholm.com/Geodesy/FultonMD/MD\\_Clarksville\\_256171\\_1957\\_24000.jpg](https://ftp.setterholm.com/Geodesy/FultonMD/MD_Clarksville_256171_1957_24000.jpg)

For another glimpse of old-time Fulton, see the images in: <https://ftp.setterholm.com/Fulton> and read <https://ftp.setterholm.com/Fulton/Fulton.pdf> , which dwells on Miss Sarah's home. Consider that an exhaustive archeological dig in the back yards of the present-day homes in MooresField would substantively reveal neither Miss Sarah's civilization on that hill 65 years ago, nor the 100 year history of her Irish family occupying the home. Miss Sarah & Arthur may dim memories, but fortunately rot & pillage didn't do in the house itself...

The termites that I observed in the area were so voraciously destructive that few wooden structures held them off. Soil analysis might reveal what kept the termites at bay there for 2.3 centuries, particularly when the main structure was un-lived-in for the last 40 years... before it was disassembled, moved, & reassembled North of Baltimore by descendents of the original ~1730 English colonists. Now the home looks as good as new. The score ended up being: English – 1, Termites – 0.

Dramatic improvements of both Nvidia graphics cards & Absoft Pro Fortran's 64-bit F90gl OpenGL support (between 2009 & 2021) enable the transforming of large source images.