

LAGI 2020 Fly Ranch Aerial Data (3D Land Mapping) Reference Guide

This document outlines the aerial mapping data formats and the land areas that were documented and processed for LAGI 2020 Fly Ranch by Steve Teitze (Aerial Flight Productions).

Mapping was broken down by Priority 1 and Priority 2 areas. The Priority 1 areas are much larger and the data sets are therefore much larger, especially when it comes to GeoTIFFs. Any large GeoTiffs that get imported into Google Earth or other applications may need to be resized first.

The aerial mapping data provides topographic information in lieu of a survey. The contours also show vegetation, whereas a survey would not.

The orthomosaic and other 3D data can be used to create virtual reality experiences and interesting visualizations that can assist in the design process or be used as a way of illustrating the completed concept.

LAGI 2020 welcomes teams to experiment with these data sets. If you put together VR experiences or videos using this data, please let us know. While they will not be considered as a part of the jury process, we would love to include them in LAGI 2020 exhibitions and public events.

ZIP folders available for download are as follows Refer to the map on the left for reference. The 3D mapped areas are shown in white.

Priority 1 Areas

<u>P-1A.zip</u> <u>P-1B.zip</u> <u>P-1C.zip</u>

Priority 2 Areas <u>P-2A.zip</u> <u>P-2B.zip</u> <u>P-2C.zip</u> <u>P-2D.zip</u> <u>P-2E.zip</u>

Fly-Geyser.zip

<u>Aerial-Panoramas.zip</u>

This screen capture of the KML Google Map available at https://tinyurl.com/LAGI2020 shows the areas that were captured using aerial mapping.



Each Data folder contains the following folders. Most folders also include an "info.txt" with details on the exported data.

3D Model

- .obj format with materials
- Some 3d modeling programs may need to relink the textures to the materials
- Meshlab is free: http://www.meshlab.net/

Elevation

- DXF Contour 1 foot and 2 foot
 » Most modeling programs can import .dxf
- GeoTIFF
 - » These can be open in various programs. Large files may need to be scaled down or broken into mulitiple files.
 - » Dragging the actual tiff file into Google will import it and may cause problems with large file sizes.
- JPG
 - » Smaller versions of the GeoTIFF information.
- Shape File
 - » This folder has various formats that can be used in many differnt programs. The .shp file can be imported into Google Earth by selecting file import. It can also be opened in ARCGIS.

Please see the following link for details: https://en.wikipedia.org/wiki/Shapefile

Orthomosaic

- The orthomosaic map is a detailed, accurate photo representation of an area, created out of many photos that have been stitched together and geometrically corrected ("orthorectified") so that it is as accurate as a map.
 - » GeoTIFF
 - » JPG
- Point Cloud
 - » A LAS file is an industry-standard binary format for storing airborne lidar data. The LAS dataset allows you to examine LAS files, in their native format, quickly and easily, providing detailed statistics and area coverage of the lidar data contained in the LAS files.



Examples of the kinds of imagery that can be generated using the aerial 3D mapping datasets available for download.

