



Enabling Cloud Optimized Data Format for Indiana Statewide LiDAR data

Jinha Jung, Purdue University (jinha@purdue.edu)

Content: Thanks to the previous support from IndianaView, the project PI was able to develop the Indiana Statewide LiDAR data portal. Before starting this year's project, the Indiana Statewide LiDAR data portal had been serving both statewide LiDAR data collections (2011-2013 and 2016-2019) to the public. The number of users using the portal has been growing since it started its service in Aug 2020. Although the visitor statistics show clear evidence that the LiDAR data portal is providing an excellent service to the public, users still need to visit the data portal and download the data to their local machines when they need further analysis. Recently, a Cloud Optimized GeoTiff (COG) has gained momentum to make geospatial data products more accessible than ever. This project aimed to enable COG support of all the statewide LiDAR data products so that users of the Indiana Statewide LiDAR data portal can access LiDAR data products without downloading the geospatial data products to their local machines. In addition to the Indiana statewide LiDAR data, we converted Indiana statewide Ortho Imageries into COG format so that users can access them easily without downloading them to their local machine.

- Developed a QGIS plugin to aid easy access to the Indiana Statewide LiDAR data products such as Digital Terrain Model, Digital Surface Model, and Normalized Digital Height Model.
- Developed a QGIS plugin to aid easy access to the Indiana Statewide Ortho Imageries acquired in 2021 and 2022
- Over 1,000 average monthly visitors to the Purdue Digital Forestry web service
- Over 1 TB of data download volume on a monthly basis

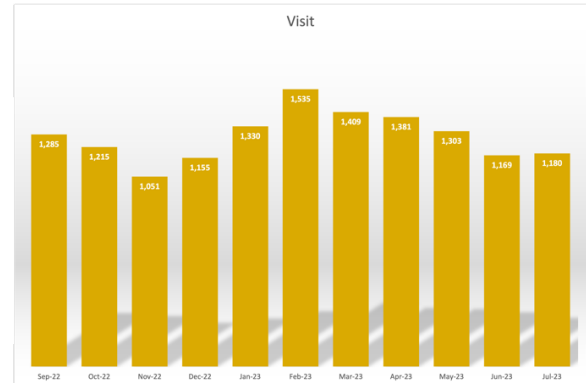


Figure 1. Average monthly visitor statistics of the Purdue Digital Forestry web service

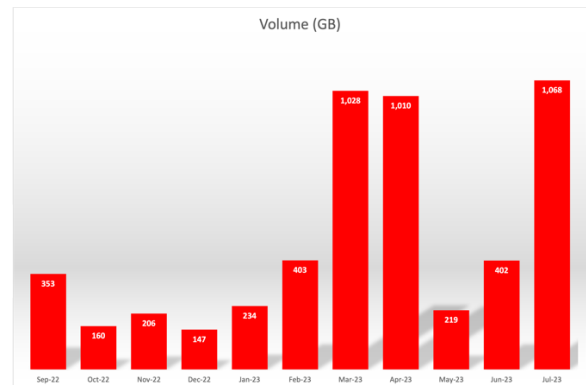


Figure 2. Monthly data download volume (in Gigabyte) of the Purdue Digital Forestry web service

FOR FURTHER READING:

- Indiana Statewide LiDAR data portal (<https://lidar.jinha.org>)
- QGIS plugin for Indiana Statewide LiDAR data (https://plugins.qgis.org/plugins/indiana_lidar)
- QGIS plugin for Indiana Statewide Ortho Imageries (https://plugins.qgis.org/plugins/indiana_ortho)

QGIS Python Plugins Repository

My Plugins

4 records found — [Click to toggle descriptions.](#)

Name	✓	★	↓	Author	Latest Plugin Version	Created on	Stars (votes)	Stable	Exp.	Manage
Indiana LiDAR	✓	—	507	Jinha Jung	Feb. 11, 2023	Feb. 3, 2023	★★★★★ (2)	0.13	—	
Indiana Ortho Imagery	✓	—	330	Jinha Jung	June 17, 2023	April 7, 2023	★★★★★ (1)	0.1.4	—	
Plot Boundary	✓	—	3065	Jinha Jung	Dec. 5, 2021	Oct. 26, 2020	★★★★★ (8)	0.1.2	—	
Plot grid tool	✓	—	1214	Jinha Jung	Feb. 11, 2023	Feb. 8, 2023	★★★★★ (2)	0.2	—	

Figure 3. QGIS plugins download statistics