Indiana Statewide LiDAR data portal development

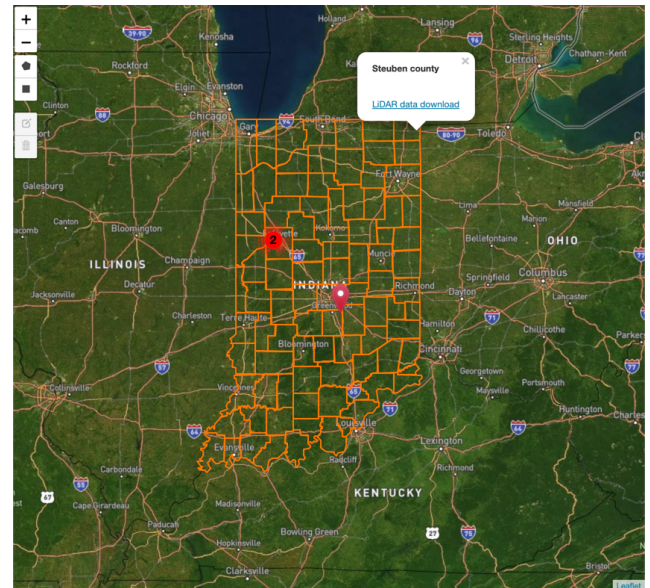*Jinha Jung,* Purdue University (jinha@purdue.edu)

Content: Recent advancements in sensor technologies make it possible to collect fine spatial and high temporal resolution remote sensing data and automatically extract information in a high throughput mode. Indiana has identified the need to have ubiquitous access to statewide topographic LiDAR covering all of Indiana, and Indiana recently finished 2nd statewide LiDAR data collection (1st statewide LiDAR data collection between 2011 – 2013 and 2nd statewide LiDAR data collection between 2016 – 2019). The proposed project addresses the above-mentioned limitations by developing an online Indiana LiDAR data portal to serve as a "virtual center" for 1) managing and sharing massive volume of LiDAR data, 2) collaborating and interacting with other researchers and public via the portal without geographic limitations, and 3) communicate research findings to the public. Thanks to the support from IndianaView program, this project was able to complete below items successfully:
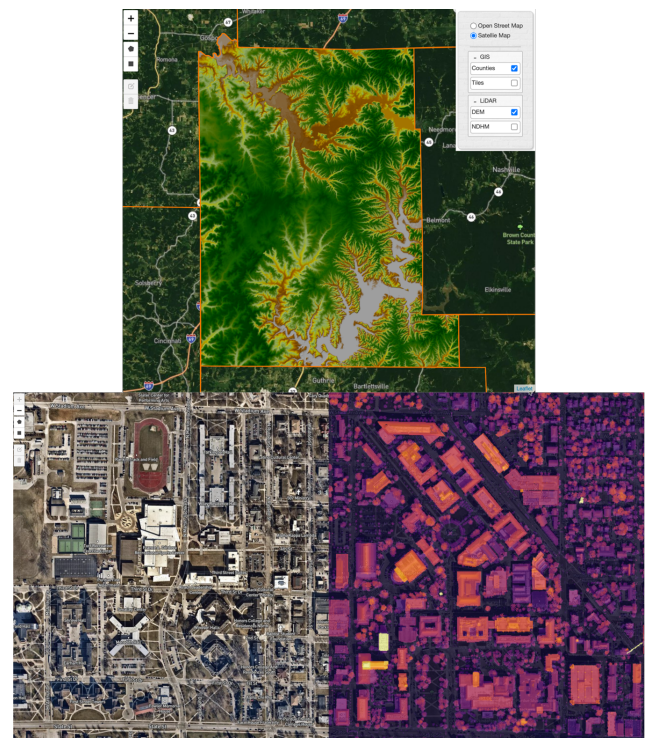
- Hosting both 2011 – 2013 and 2016 – 2019 Indiana Statiewide LiDAR and aerial imageries (Figure 1)

- Developed additional geospatial data products such as DSM (Digital Surface Model) and NDHM (Normalized Digital Height Model) from the LiDAR data and made them available to download (Figure 2)

- Visualizing DTM (Digital Terrain Model) and NDHM layers without downloading the LiDAR data (Figure 2)

- Delivering a presentation highlighting this project in the 2020 IGIC annual conference

FOR FURTHER READING:

- Indiana Statewide LiDAR data portal (https://lidar.jinha.org)

- Reference from IGIC website (https://www.igic.org/countywide-lidar-and-dem-tiles)

- Reference from Indiana Statewide LiDAR planning and Status Story Map (https://indianamap.maps.arcgis.com/apps/MapJournal/index.html?appid=a0f9003d504446da8158f5efce5be5d5)

- 2020 IGIC Virtual Conference presentation recording (https://youtu.be/ImE0QTLp3DI)

Figure 1. Indiana Statewide LiDAR data portal main user interface window

Figure 2. Visualization of geospatial data products generated from the Indiana Statewide LiDAR data (top: DTM, bottom left: Aerial Imageries, bottom right: NDHM)