

Cloud-Based LiDAR Visualization and Exploitation

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The GIS industry has seen a significant increase in the discovery, visualization, and exploitation of remotely sensed data over the internet in the past few years. The ability to access and run intensive analysis on remotely hosted datasets reduces the need to move data around and leverages the processing power of cloud-based computing resources, saving time and money, all while increasing the ability for disconnected users to collaborate.

However, many cloud based GIS systems fall short of their intended use either due to poor design or technological limitations. This presentation looks at the technological hurdles that have been overcome to bring LiDAR visualization and exploitation to the cloud as well as the hurdles that still exist in realizing full web-based consumption of LiDAR. It will also examine some of the best practices to consider when designing a web-based GIS exploitation tool, and how to ensure you are meeting the needs of your users when designing such a system.

Technologies to be showcased will include streaming LiDAR from a catalog into a browser-based LiDAR viewer, examples of cloud-based processing of LiDAR point clouds including feature extraction and creation of elevation models, and workflows for bringing derived LiDAR products out of the cloud onto the desktop for further analysis and fusion.

Learning Objectives:

- > Understand what the technological hurdles are to delivering LiDAR and LiDAR derived data via the cloud
- > Explore best practices for creating a web-based exploitation tools