



Forest Service Terrestrial LIDAR Applications

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Forest Service Mission

Sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations



LIDAR issues in Natural Resources



Acquisition Expense and Lag

Traditional LIDAR is expensive, particularly for custom acquisitions at a project scale.
Contracting process is lengthy



Resolution

Aerial LIDAR resolution is too coarse for fine scale scene capture



Processing and Analysis

Huge datasets, complex processing necessary

Terrestrial LIDAR



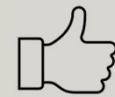
Devices are costly



Able to scan small
areas at high
resolution



Project level scans
are relatively cheap



Easier to process

Less processing than
Landscape scale LIDAR and
included software dramatically
reduces difficulty

Devices

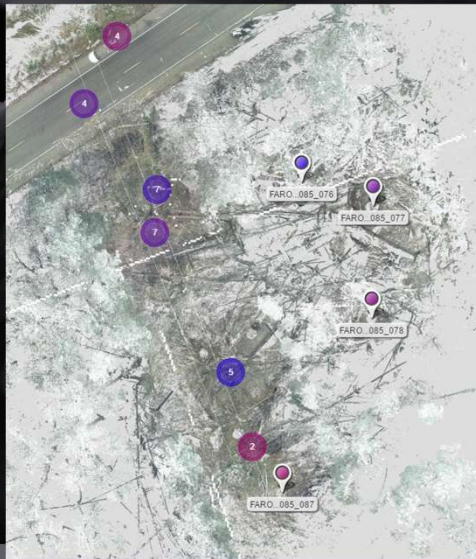
- FARO FOCUS
- GeoSlam ZEB Horizon





FARO Focus

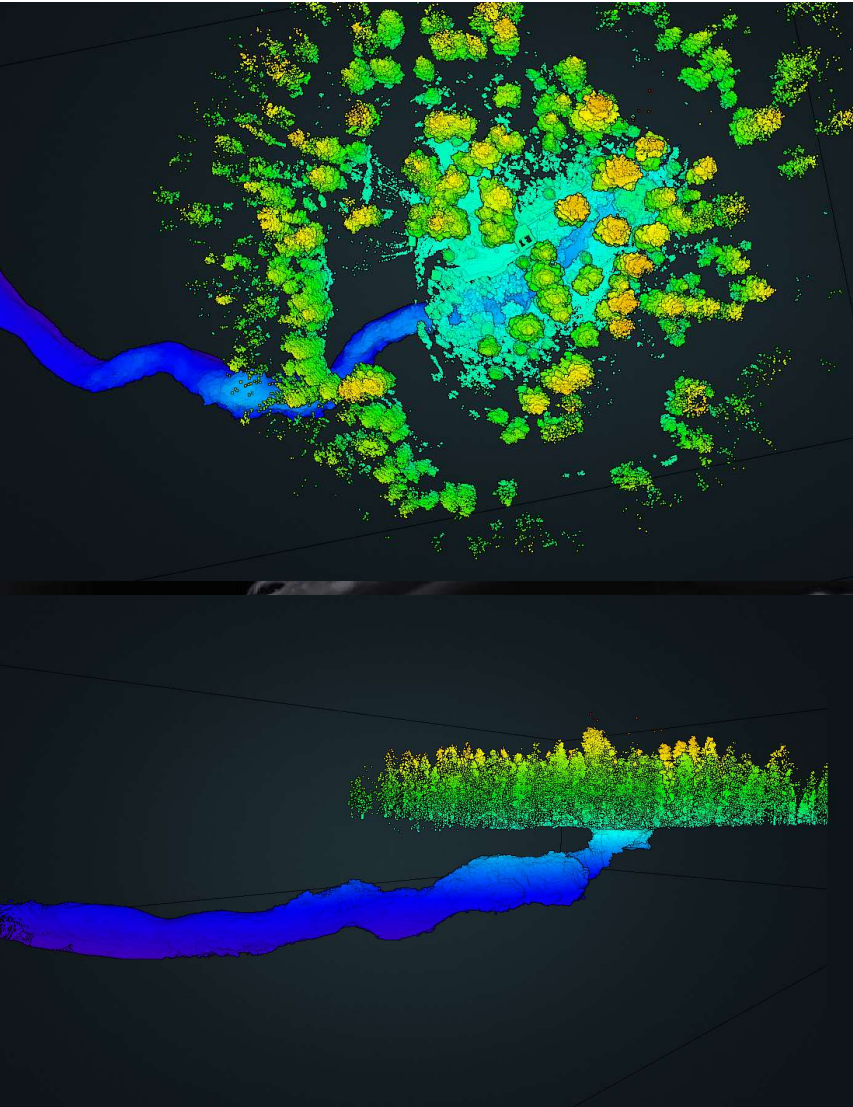
- Acquired by R6 Law Enforcement to assist with crime scene and accident investigations
- Limited availability for Natural Resource projects
- Stationary scans require considerable field time
- Color and Laser illuminated HDR Photography
- FARO Scene Software is user friendly and has excellent support
- Able to share on the web and to users without FARO Software





GeoSlam ZEB Horizon

- R6 Geology
- Lava River Cave



GeoSlam ZEB Horizon

- Acquired by R6 Geology Program
- Handheld scanner allows for rapid scene capture out to 100m
- LIDAR Only
- Software is more difficult to use
- Limited ability to export



Imagery: Mike Spendel R6 Geology

Future Projects/Applications

- Finish Scanning Lava River Cave
- Develop accessible visitor content for Newberry National Volcanic Monument
- Additional Natural Resource Projects
- Continue to support Law Enforcement Investigations
- Further Collaboration with R6 Geology to map other caves, mines, etc.
- Additional Maps and integrating LIDAR data

Technology Potential?

- FARO acquired GeoSlam
- Drones/UAS
- Higher detailed/faster scanners

Questions?

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