

3DEO Geo Week takeaways

Geo Week 2026 was an exciting opportunity to gather with industry leaders and learn about evolving geospatial changes and challenges.

What we learned

The first thing is the success of 3DEP. 3DEO wants to congratulate USGS on stage one completion for the 3D Elevation Program. 3DEP was instrumental in widening the scope for geospatial applications and setting national standards for lidar collections. The decade-long program is a prime example of the benefits that come from a multi-government agency and cross-industry project.

The second stage of 3DEP will collect at higher point densities and push a greater focus on hydrography. As a continental program, these higher densities must be achieved while maintaining large-scale collections. Instead of unveiling completely new systems, most exhibitors were presenting upgrades and integrations that addressed headaches from increasing the scale projects. Higher point densities and larger scales create much larger datasets (10^3 to 10^5 order of magnitude). One potential data solution that we found interesting was the commercial cloud offerings of Nuclideon which makes it easier to view large complex 3D datasets.

What we shared

On the final day of the conference 3DEO presented as part of the “Spatial accuracy and validation of topographic and bathymetric lidar data session”, sharing the resolution and precision of Geiger-mode lidar systems. Specifically, data was presented from a 3DEO Wrangell and Sequoia system from collections done at 8,500 ft and 27,850 ft respectively.

The high resolution and precision capabilities of Geiger-mode systems comes from a combination of hardware and processing features that identify and amplify patterns in signal detections. This enables identification of even one centimeter thick cables from these high altitudes. See the presentation slides attached.

Going forward

As the geospatial industry develops, scaling collections, addressing wider applications and answering more questions, it is important to think about the following issues:

1. Given the increase in data size, how must workflows change to handle data only once?
2. Given a complex collection footprint (i.e. transmission corridor collections, urban canyons, etc.), how can systems provide flexibility to simplify mission planning?

What have we missed? If you noticed any other trends within the geospatial community, we would love to hear from you.