

Bare Earth model overlaid with lidar point cloud, colored by elevation, looking SE from Bear Inlet, SW of Swansboro, NV

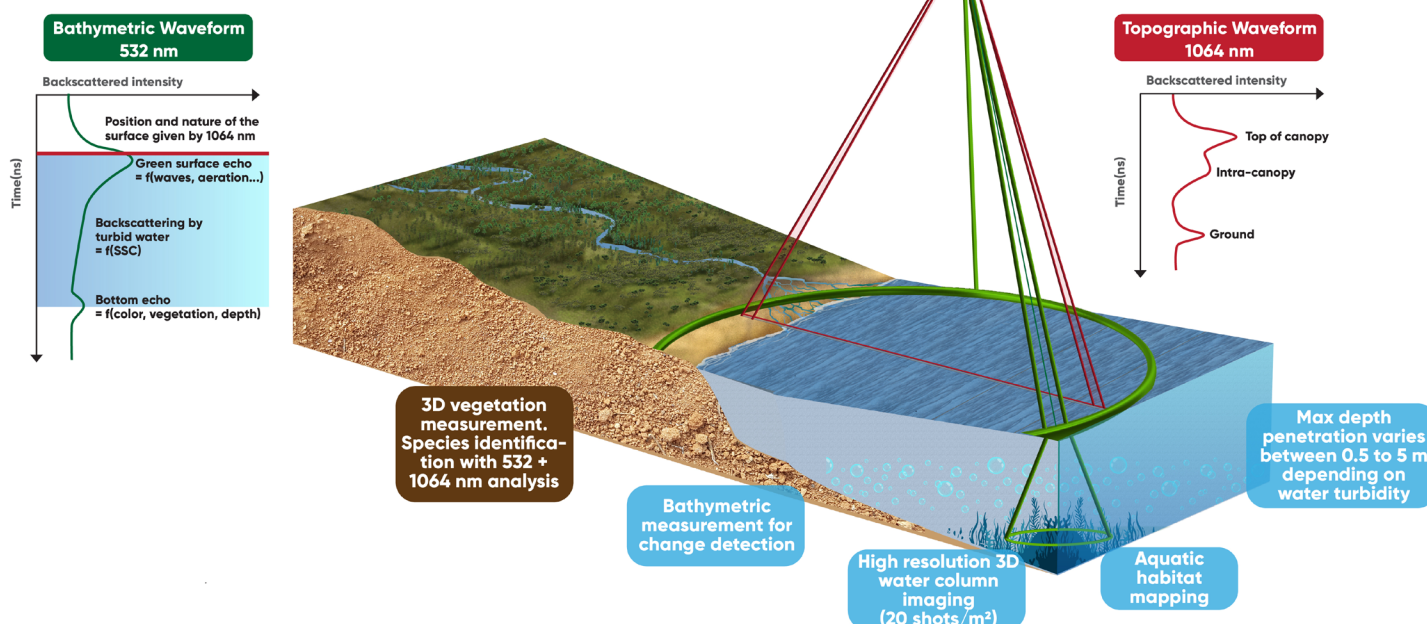
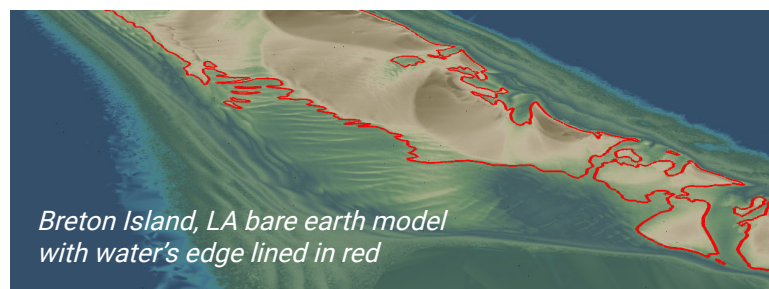
TOPOBATHYMETRIC LIDAR

ACQUIRE
ANALYZE
ANSWER

NV5G EDGE

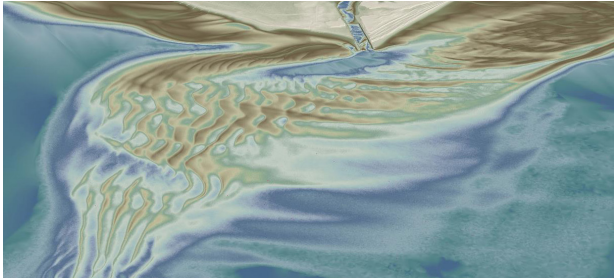
NV5 Geospatial has an impressive portfolio of experience and technical competency in high density topobathymetric lidar for a diversity of clients and interests. We are at the forefront of collecting and processing high-resolution lidar and imagery to create powerful datasets for a wide variety of applications such as resource management, habitat mapping, and coastal planning.

NV5 Geospatial's client-focused approach starts with understanding your needs, then leveraging existing technologies to develop a solution that will deliver high quality geospatial data. Our work continues to improve natural resource planning and management practices, helping stake holders conserve resources, improve economic productivity, and increase resiliency to changing environmental conditions along inland and coastal waters.



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APPLICATIONS



SHORELINE & COASTAL INTELLIGENCE

Topobathymetric lidar has greatly increased knowledge of the foreshore zone of coastal waters, increasing the accuracy of shoreline delineation, marine debris mapping, marine resource mapping, inundation modeling, nautical charting, and benthic habitat mapping, to name a few. To better characterize bottom substrates, we are also working on radiometric calibration of seabed reflectance.

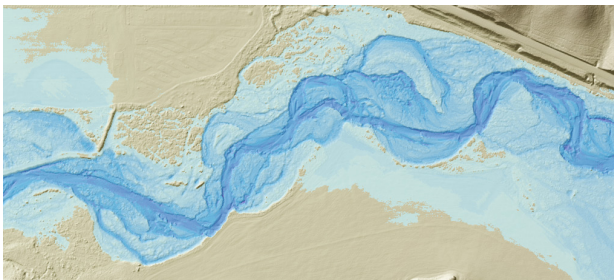
- Looking West at Smith Point, Chesapeake Bay, MD



FISHERIES & HABITAT ASSESSMENT

Providing unprecedented detail on floodplain geomorphology and vegetation of streams, rivers, and watersheds, topobathymetric lidar provides valuable insight on fish habitat. The technology provides new insight on depth, substrate, pool-riffle sequence, sinuosity, connectivity, aspect, slope, flow dynamics, woody debris, and water drainage networks.

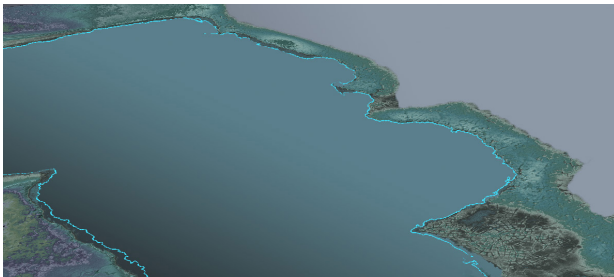
- Lidar-modeled large woody debris within the Quinault River, WA



FLOODPLAIN MODELING

Bathymetric lidar has advanced the ability to comprehensively map dynamic floodplains to guide inundation modeling, dam and canal infrastructure evaluations, pipeline feasibility studies, and river and watershed restoration efforts. NV5 Geospatial's data has contributed to high profile work for river recovery after dam removal, FEMA flood hazard mapping, and geophysical hazard compliance for submerged infrastructure.

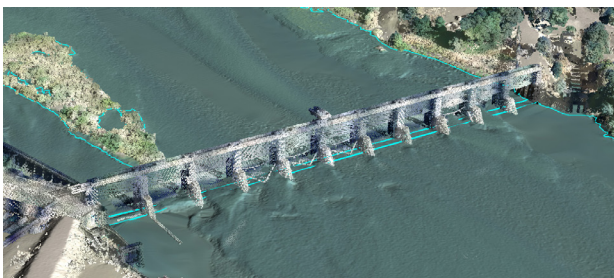
- Lidar-derived model depicting predicted flood inundation, Tucannon River, WA



VOLUMETRIC ANALYSIS

For lakes and other shallow water bodies, determining water depth and subsurface topography with lidar enables precise real-time calculation of water volume. These data allow for analysis of drinking water capacity, more effective water use permitting, and conservative water resource allocation for irrigation, ice road engineering, and downstream fish habitat management.

- Lidar-derived depiction of water level and shoreline, North Slope, AK



INFRASTRUCTURE PLANNING & ENGINEERING

Topobathymetric lidar provides important baseline data to support engineering planning for pipeline and telecom infrastructure, road or rail crossings, and dam removal projects. All data are compliant with federal and state requirements for accuracy and precision, with certification provided by NV5 Geospatial professional land surveyors and engineers.

- 3D lidar point cloud at Keswick Dam, Sacramento River, CA