LiteWave TECHNOLOGIES

LITEWAVETECH.COM
CONTACT@LITEWAVETECH.COM

RIVER ENGINEERING & FLOOD MITIGATION

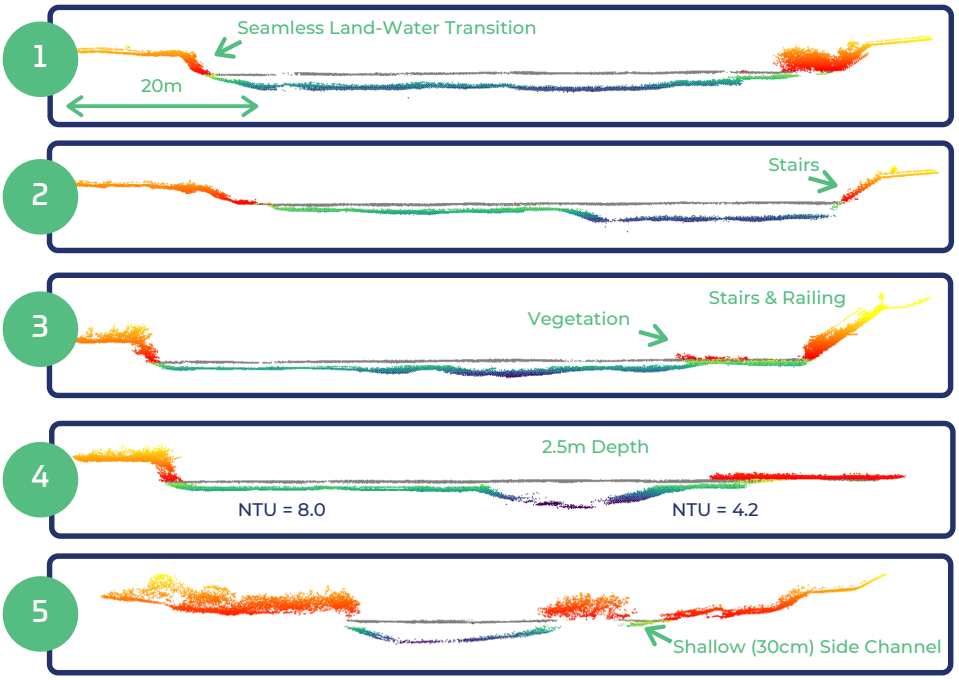
EDGE LIDAR MAPS STORM IMPACT

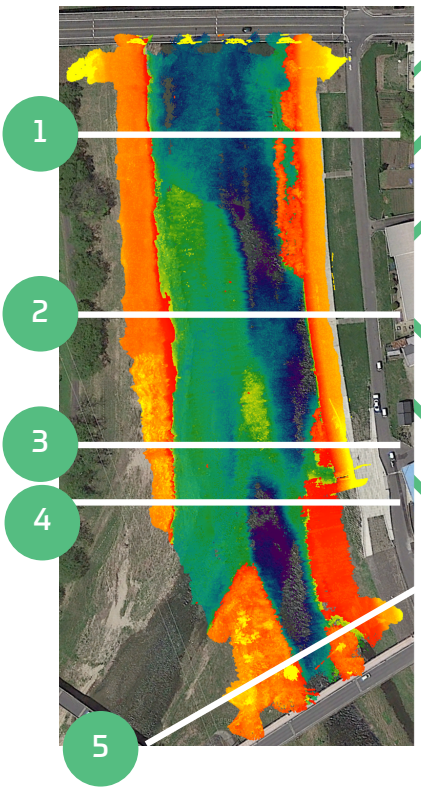
Hurricanes and typhoons cause severe erosion and deposition of rocks and soil. As shown in the picture above, removal of sediment can be significant and costly. Frequent surveys are needed in order to estimate volume and calculate the resources required for removal of sediment and restoration of the river channel to protect critical infrastructure such as highways and bridges. **The EDGE has been used to map the bathymetry of such scenes to quantify the impact of these severe weather events and give local DOT personnel the information they need to respond quickly to protect and restore critical infrastructure.**

In order to properly plan these efforts, an accurate assessment of the present river morphology is needed. This includes a bathymetric survey to understand the river profile and describe any underwater features. Topographic data is needed to assess the flood plain impacts and complete a flood risk assessment. A time history before, during, and after the river engineering project is indispensable to the process but can be costly and often unachievable using traditional survey methods. ASTRALiTe EDGE LiDAR solves this problem with cm-level, high resolution survey data that reduces planning and response time for more efficient operations, ultimately saving both time and money.

LiteWave Technologies - River Engineering & Restoration

LiteWave Technologies has performed a series of river surveys where the customer objectives were to understand the dynamic character of these rivers, how changing conditions would impact surrounding areas, and how engineered solutions could lower risks. ASTRALiTe assisted in assessing the site locations, developed flight plans, and performed UAV flights that simultaneously collected topographic and bathymetric data in near real-time to evaluate the extent and quality of the data collected.





Using LiteWave's topo-bathy LiDAR, planners were able to acquire survey data that included river bank topography, the transition from land to water, and the subsurface conditions of the shallow water river system. The data collected provided an accurate assessment of the river profile, identified underwater features, and gave an accurate picture of the underwater elements of bridges, dams, and retaining walls infrastructure.

Access to previously unavailable bathymetric data provides engineers with an accurate depiction of the river channel to use for planning. Because of the efficiency of this type of UAV-based topo-bathy survey, frequent re-assessment enables effective monitoring of valuable infrastructure. **Changes to riverine environments caused by extreme events like hurricanes / typhoons and extreme runoff from heavy rains or snow melt are now quantifiable with recurrent flights of the EDGE LiDAR system.**

Contact Us for improved resolution of your river surveys.

(303) 993-8039 • contact@litewavetech.com • litewavetech.com • © 2022 by LiteWave Technolgoies, Inc.