GlobalMapper

LiDAR Module

CASE STUDY

DroneMapper | Using Global Mapper for UAV-Collected Imagery

Case Study Overview

INDUSTRY

Photogrammetry and GIS Data Processing

CUSTOMER PROFILE

DroneMapper is a Colorado-based company specializing in the generation of geo-referenced orthomosaics and Digital Elevation Models from aerial images obtained by UAVs and manned aircraft. The company also offers extensive imagery consulting, desktop photogrammetry software, data management, data cleanup, software development and GIS services to its customers and business partners.

PRODUCT

Global Mapper and the Global Mapper LiDAR Module

CHALLENGES

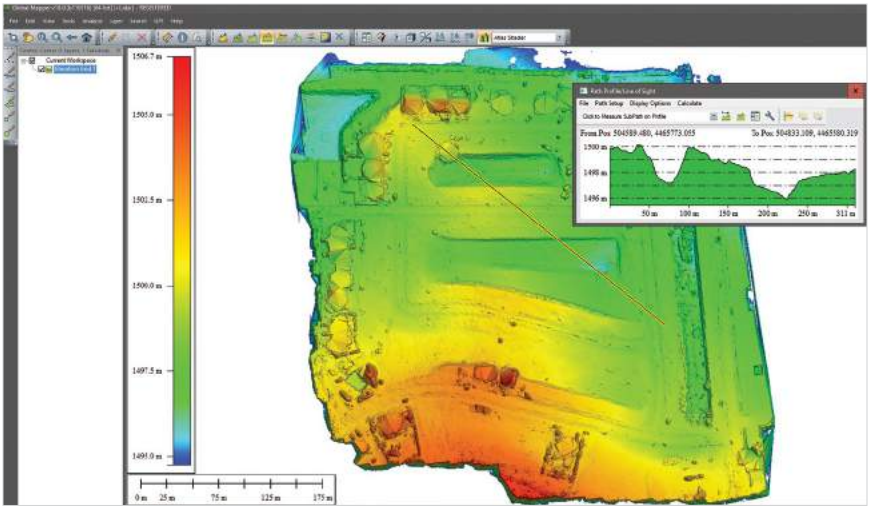
Traditional GIS applications are expensive and cumbersome adding to the cost of data production and management. DroneMapper needs a versatile and inexpensive alternative that supports the wide variety of data formats and offers the means to efficiently generate the various geospatial products in the company's portfolio.

SOLUTION

Global Mapper has proven to be a perfect fit for DroneMapper, providing just the right combination of features and functions at a significantly lower price-point than mainstream GIS software.

BENEFITS

- Efficient coordinate transformations and precise measurements
- Wide variety of output product formats
- Contour and volume calculations
- Versatility and interoperability



Once the GRID generation is completed you have a bare earth DTM which can be exported as a GeoTIFF or any other elevation format via Global Mapper.

BACKGROUND

DroneMapper is one of the success stories in the fledgling field of UAV data collection and processing. After several decades of experience working in the aerospace industry, CEO Pierre Stoermer was quick to recognize the potential for drones as a viable low-cost alternative to manned aircraft for this purpose. Serving customers in a wide variety of industries and business sectors, including agriculture and mining, Stoermer recognized the importance of efficient data management and processing, both for their internal processes and for the value added products that the company delivers to their customers.

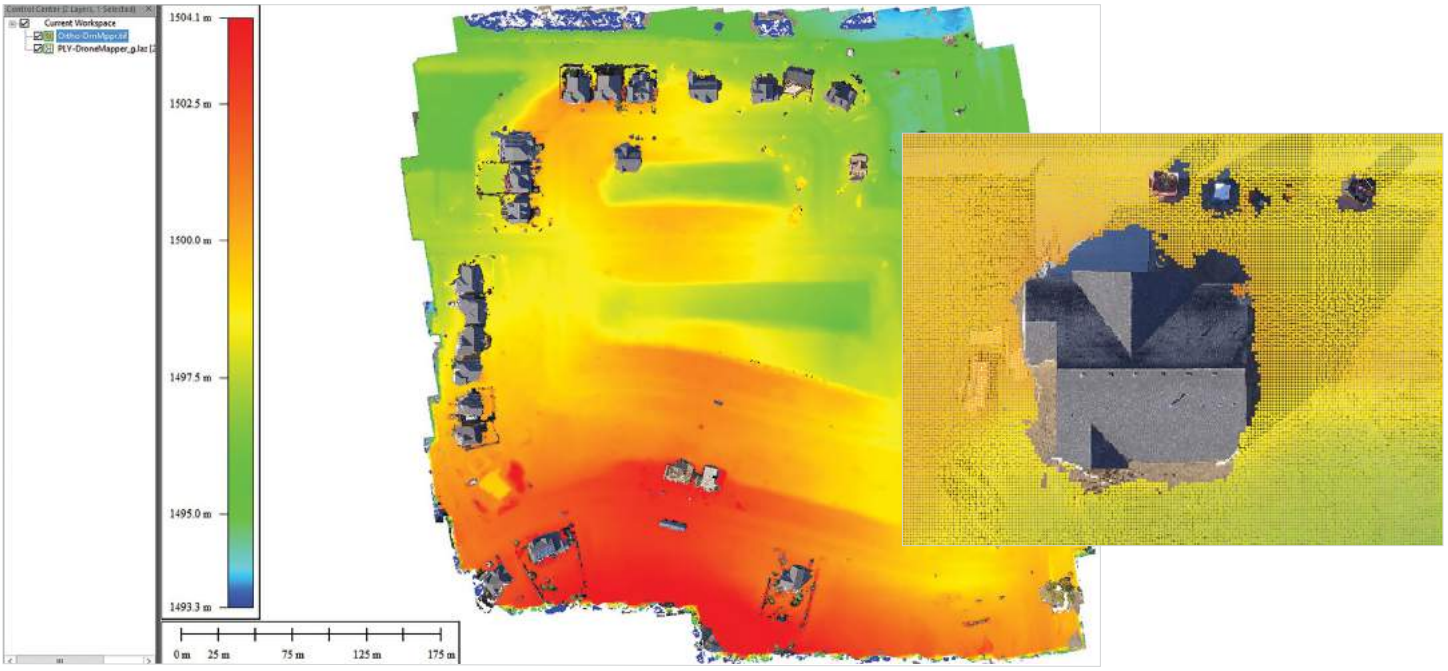
CHALLENGES

Like most small businesses, one of the main challenges faced by DroneMapper was finding tools that provide the right level of functionality but that fit within the company's inevitable budgetary constraints. As with any business expenditure, investing in technology must bring some degree of assurance that there will be a return on this investment. Traditional GIS

LEARN MORE ABOUT DRONEMAPPER ONLINE:

www.dronemapper.com

A 3D view of piles in Global Mapper that were measured to give the viewer perception of their relative sizes.



A visualization of what has been filtered from an initial point cloud and digital elevation model.

applications are notoriously complex and cumbersome, requiring an inordinate amount of time and a high degree of training and expertise to effectively operate, which significantly impacts the overall cost of any project.

Without a dedicated GIS technician at DroneMapper, the operation and maintenance of the GIS data processing workflow is the responsibility of the current staff. The selected software must therefore be easy to learn and easy to apply.

DroneMapper has an expanding client and customer base, whose needs and requirements necessitate an efficient data processing platform that can generate deliverables in a wide variety of formats and with varying specifications.

SOLUTIONS

Unlike most companies who, when faced with a technology decision, evaluate multiple software alternatives, DroneMapper found Global Mapper first and has stuck with it. The range of functionality in tandem with the unparalleled format support were enough to convince them that Global Mapper was an ideal solution for their needs.

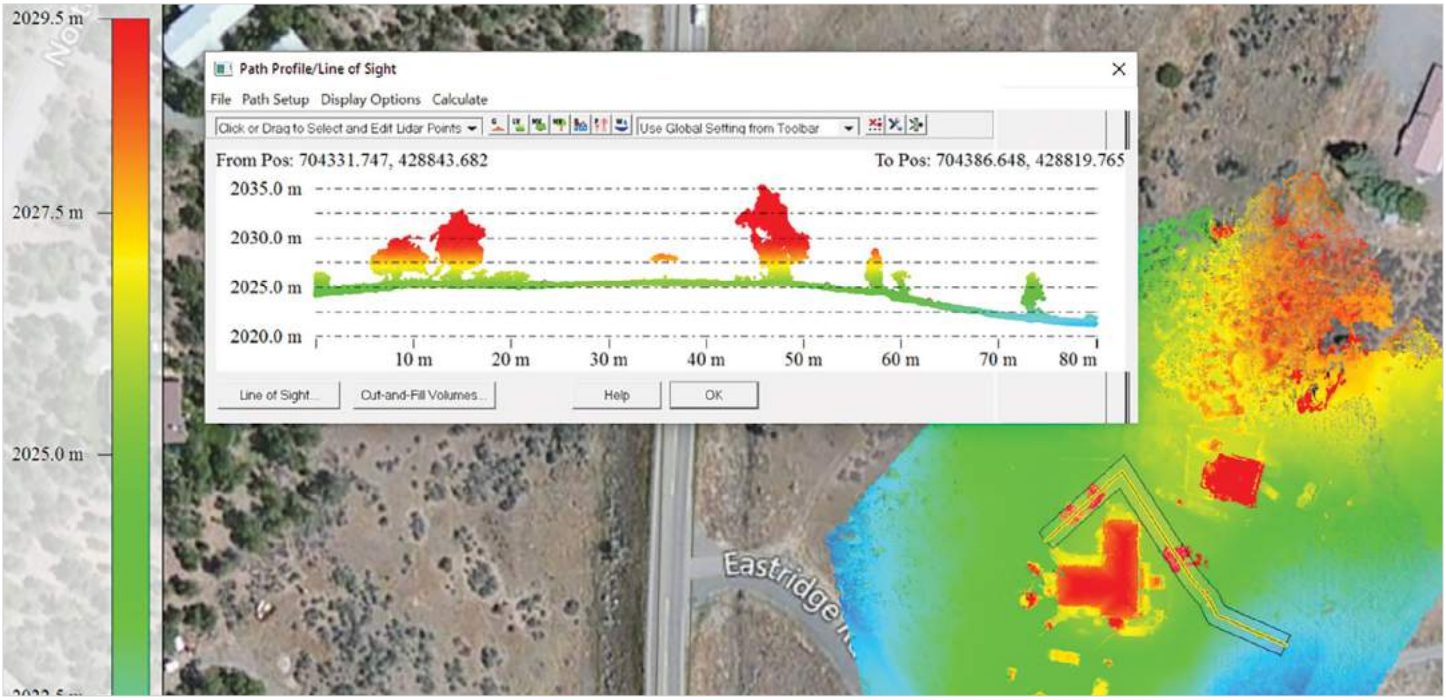
This versatile, fully functional GIS application has been steadily gaining an eager and dedicated worldwide following among geospatial professionals. Recent development work has focused on the visualization and analysis of 3D data, especially LiDAR and other point cloud formats. According to Stoermer, "Global Mapper provides an outstanding set of tools for efficiently assisting us and our client base in an affordable manner".

GLOBAL MAPPER AT WORK

Global Mapper is at the core of most of DroneMapper's data processing workflows. The company employs the software's intuitive 2D and 3D visualization tools to provide initial quality control of ortho-rectified imagery and DEMs.

Further along the production line, Global Mapper is the go-to application for filtering point cloud data to create accurate, bare-earth Digital Terrain Models. These DTMs allow the company to generate customized contour lines that can be exported in shapefile or virtually any other vector format. Global Mapper's powerful cut and fill analysis capability and volumetric calculation tools are used to precisely measure volumes, providing DroneMapper's clients in a variety of industries with site-specific intelligence that is essential for efficient project management.

> *"For many of our clients in the drone imagery collection/service market, ROI can be accomplished in one to two missions — that's really good amortization!."*
>
> **Pierre Stoermer** | CEO



Elevation profile shown in Global Mapper for vegetation of interest.

Employing Global Mapper's powerful raster calculation functionality, DroneMapper is able to quickly and accurately analyze vegetation patterns by generating NDVI grids. This provides an invaluable service to clients in the agriculture and forestry industries.

BENEFITS

DroneMapper's decision to settle on Global Mapper for its spatial data management allows the company to perform both internal data processing as well as customer services on one powerful and easy-to-use platform. The application's SDK will also provide an opportunity for future custom development projects and will allow DroneMapper to adapt Global Mapper to more specifically meet their needs.

ABOUT GLOBAL MAPPER

Global Mapper is an affordable and easy-to-use GIS application that offers access to an unparalleled variety of spatial datasets and provides just the right level of functionality to satisfy both experienced GIS professionals and beginning users. Equally well suited as a standalone spatial data management tool and as an integral component of an enterprise-wide GIS, Global Mapper is a must-have for anyone who deals with maps or spatial data. The supplementary LiDAR Module provides a powerful set of tools for managing point cloud datasets, including automatic point classification and feature extraction.

> *"It looks like Blue Marble is having fun and that is reflected in the quality products you produce."*
>
> **Pierre Stoermer** | CEO

ABOUT BLUE MARBLE GEOGRAPHICS

Trusted by thousands of GIS professionals around the world, Blue Marble Geographics is a leading developer of software products and services for geospatial data conversion and GIS. Pioneering work in geomatics and spatial data conversion quickly established this Maine-based company as a key player in the GIS software field. Today's professionals turn to Blue Marble for Global Mapper, a low-cost, easy-to-use yet powerful GIS software tool. Blue Marble is known for coordinate conversion and file format expertise and is the developer of The Geographic Calculator, GeoCalc SDK, Global Mapper, LiDAR Module for Global Mapper, and the Global Mapper SDK.

Blue Marble GEOGRAPHICS
Mind the gap between world and map

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