simactive

CASE STUDY

Cornerstone Mapping Employs Correlator3D for Agricultural Resource Monitoring

INTRODUCTION

Cornerstone Mapping, a preferred federal partner, has been working on the Stewardship Lands Imagery Program (SLI) covering large portions of Nebraska. This Nationwide program is managed by the Natural Resource and Conservation Service (NRCS) which uses imagery from the SLI program to assess land cover and use, soil erosion, wetlands issues, and characteristics of other natural resources. SimActive's Correlator3D is key to Cornerstone's processing workflow.

INDUSTRY
Agriculture

COUNTRY
United States

USE CASE
Using large format digital metric cameras to acquire imagery over large areas for the purpose of monitoring land cover and use.

CHALLENGES
- Numerous sites scattered across large areas
- Time sensitive acquisition windows
- Atmospheric condition limitations
- Aggressive delivery schedules

BENEFITS
- Homogeneous deliverables
- Color-balanced mosaics
- Script-based processing
- Rapid generation of results

"Image processing is demanding, especially when dealing with large datasets. Correlator3D is designed to do just this with batch processing capabilities via scripted routines. We can trust the software to repeatedly provide high quality data to our QC team."

-   Aaron Schepers, President of Cornerstone Mapping.

WORKFLOW

Under his current task order, Cornerstone Mapping had to acquire multiple sites in Nebraska. With a short acquisition window, requirements for sun angle and cloud free conditions, it takes an experienced aerial photographer to plan and execute multiple missions in a single day. It also takes a bit of flexibility and luck. Once the imagery is back in the office, Cornerstone performs an initial QC and begin their processing workflow.

An initial dataset is processed in Correlator3D, and if adjustments are needed, Cornerstone will modify the script prior to setting-up the batch routine and start the processing. The same batch routine is used for multiple projects allowing the software to run continuously without interruption. Once the final mosaics are produced, they are checked to ensure correct tonal balance and there are no issues with seamlines. From there the imagery is tiled and prepared for delivery to the client.
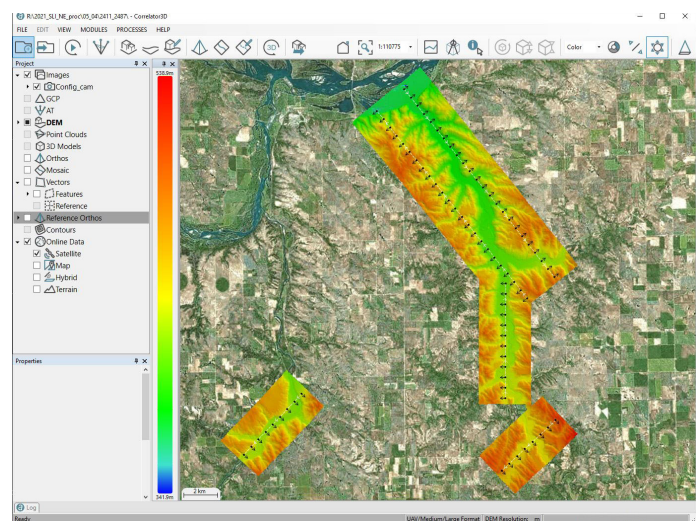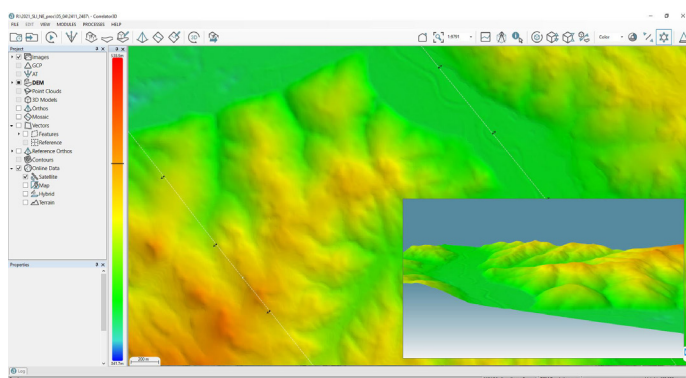

Flightlines
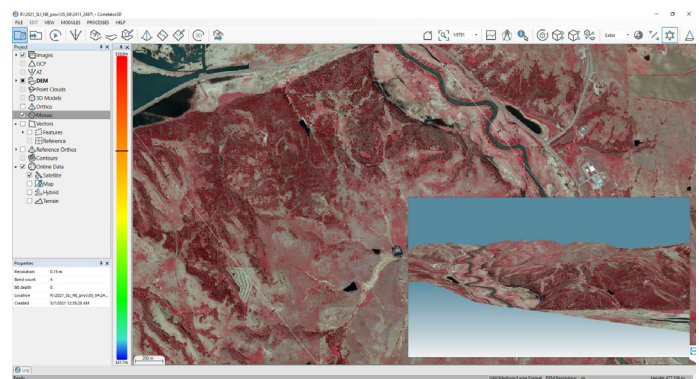
DTM texturized with infrared imagery

DELIVERABLES

Typical deliverables consist of tiled color (RGB) or infrared (IR) mosaics in multiple formats.


Digital terrain model

BENEFITS

The benefits of using Correlator3D according to Cornerstone are the speed in which it processes data and the ability to perform much of the processing with scripts. This allows to run multiple projects continuously in Correlator3D as the team continue with other work. After processing in Correlator3D is complete, QC and any additional editing can be performed quickly before delivery.

SLIOnboard camera interface

Cockpit
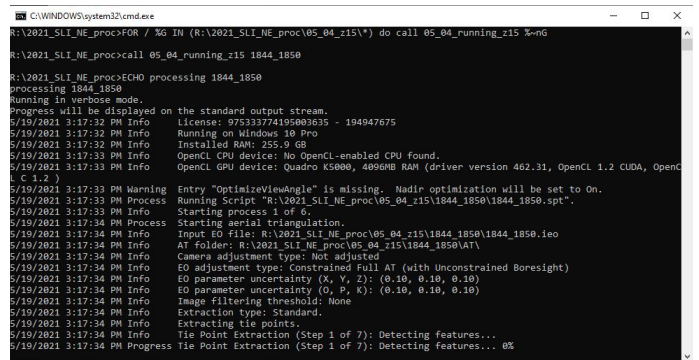
Scripted processing

ABOUT CORNERSTONE MAPPING

Established in 2002, Cornerstone Mapping is an aerial photography and mapping company headquartered in Nebraska. Operating multiple aircraft and sensors, Cornerstone Mapping acquires imagery and processed data for project throughout the US. As a small business, Cornerstone Mapping is a preferred teaming partner on many Federal projects including the USDA NRCS's Stewardship Land Inventory (SLI) program. For more information, visit www.cornerstonemapping.com.