SPECIAL EDITION FEATURING:

- Pipeline Assessment
- Emergency Aid
- Image Fusion
- UAS for Energy Inspection

ALSO:
Case Studies and Profiles of Aerial Service Providers
MIDWEST AERIAL has been supporting our client’s image acquisition needs since 1989 for projects ranging in size from statewide imagery collections to individual landfills and engineering design scale mapping projects located throughout the United States and Canada. Since 2010, a majority of our acquisition has been done utilizing one of our three highly accurate DMCII-140 digital sensors. This accuracy of the sensor has been proven to be approximately ½ pixel horizontally and 1 pixel vertically but our clients have measured the vertical accuracy to be closer to 2/3 of a pixel when checking the given ground control in a stereo environment. At a 3cm GSD this equates to a horizontal accuracy of approximately 0.6 inches and less than an inch vertically (2/3 pixel).

In 2011, the FAA began to allow a digital frame-based camera for use in the image acquisition phase of an Airport Obstruction Survey (on a case by case basis). Midwest has flown well over 100 airports for numerous clients over the past few years and that collection continues today.
These projects have been completed to support the safe operation of aircraft around airports following strict FAA geospatial requirements. In turn, the data ultimately delivered by our clients will be used as part of the FAA’s nationwide effort to keep aviation charts updated for airports of all sizes.

“Accuracy is critical in mapping vertical obstructions on and around airports,” said Midwest Aerial President and Founder Ken Scruggs. “The FAA has very stringent specifications for the aerial photography in these projects.”

“Two other requirements add to the challenge of these projects,” said Scruggs. “Acquisitions must be performed during maximum leaf-on. In addition, there can be no breaks in flight lines.”

Operations in the busy airspace around airports are usually difficult enough, explained Scruggs, but all these specifications together shrink the time window available for acquisitions. Leaf-on vegetation is a necessity for mapping vertical obstructions such as trees because the leaves make them more visible in the imagery. But that means collection during the summer months, and this is the maximum time of haze and clouds in the Midwest and Southeast of the United States.

“For any other project, we would deal with a cloud bank by breaking off the flight line and picking it up later, maybe the next day, but we can’t do that for the FAA,” said Scruggs.

“Consequently, we keep our aircraft mobilized at or near the target airport ready to capture even the briefest acquisition windows when weather permits.”

The other critical factor in the success of these acquisitions has been careful coordination with local Air Traffic Control at the larger airports. Midwest Aerial submits its flight plans in advance and works with controllers during the flights to coordinate with airline other air operations at the airport facility. The airports are typically photographed from an altitude of 4,800 feet above the ground with standard 60 percent forward and 30 percent side overlap.

The obstruction details (features such as trees, towers, poles, billboards, water tanks and buildings) delivered by our clients and if applicable, airport layout maps, are submitted to the FAA for approval. Once approved, the agency uses this vertical obstructions information to determine the location and elevation profiles of the arrival and departure corridors on the airport charts that pilots use to make safe take-offs and landings at under low visibility or inclement weather conditions at the airport. In addition, the obstruction data is entered into FAA GIS database for use by other agencies in developing other products within the U.S. government.

What are clients are saying about our image acquisition work regarding Airport Obstruction Surveys:

“We’re thoroughly impressed with Midwest Aerial’s responsiveness, and the quality they are able to produce,” said Tom Mackie, Woolpert Vice President, Aviation Project Director. “We keep going back to Midwest Aerial for the simple fact that Ken Scruggs understands what our mission is and understands the standards and specifications we have to meet,” said Mackie.

“Our working relationship with Midwest Aerial has been a key to our success with airport obstruction analysis projects. The imagery quality we have come to expect from Midwest is second to none.”

“We have met the exacting data standards of your photo interpretation, GIS, remote sensing, orthophotography, planimetric and topographic mapping projects. With more than 100 years of personnel experience and a fleet of six aircraft, we have earned a reputation for reliability by collecting aerial imagery in tight acquisition windows and getting it right the first time. We take pride in managing complex airborne projects as a prime or subcontractor in both the public and private sectors. Our partners and clients include federal, state and local government agencies as well as photogrammetric firms and architectural & engineering companies. We service our clientele with flight operations based in Ohio and from our remote facilities in North Carolina and Tennessee.

In 2012, Midwest Aerial became the only private firm in the world to own three Z/I Imaging DMC II-140 digital mapping cameras. The DMC II-140 enables us to make our partners and clients more competitive in the marketplace. Combined with our four RMK TOP film cameras, the DMC IIs give us unparalleled capabilities to acquire imagery for photogrammetric mapping projects of any size, scale or altitude.

“When your mapping project requires precise imagery and reliable acquisition on a tight schedule, you need Midwest Aerial Photography on your team.”

Frank Taylor, CP, RPS is the Marketing Development Manager for Midwest Aerial Photography. A graduate of Tennessee Tech University, he has over 29 years of experience in the Geospatial industry.

With contributions by: Kevin Corbley of Corbley Communications, Inc.
We started flying the DMC II Digital Mapping Camera a couple years ago for all types of aerial acquisitions – big, small, high, low. Our clients and partners just couldn’t seem to get enough of the clean, crisp, accurate imagery that only the Z/I Imaging DMC II can provide. They kept asking for more because the superior image quality and information content made them more competitive and successful with their customers.

So we bought a second…and now a third.

Midwest Aerial Photography is proud to offer our clients and partners unrivaled access to the best large-format photogrammetric mapping camera available today. Our three systems are ready now to acquire digital imagery with the highest positional accuracy at the altitude and map scale your project requires.

Call us today to make the DMC II part of your next mapping project.