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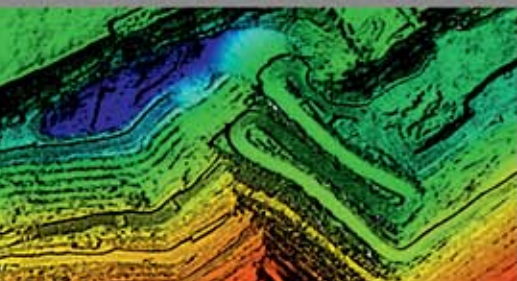
Spring 2013

Aerial Mapping

LIDAR ■ IMAGING ■ PHOTOGRAMMETRY

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Midwest Aerial



Prince Edward Island Experiences Immediate Benefits from Switching to Digital Imaging

Prince Edward Island made the switch from film to digital imagery in 2010 and hasn't looked back since. Airborne acquisition of 40-cm imagery with Midwest Aerial Photography's DMC II digital mapping camera has enabled the island province to map its entire 5,682-square-kilometer land area at a level of detail not previously practical.

Located on the Atlantic Coast of Canada, PEI is tucked between New Brunswick and Nova Scotia in the Gulf of St. Lawrence. Since the 1980s, the PEI Department of Agriculture and Forestry has been tasked with delivering a "State of the Forest" report every 10 years. In the '80s and '90s, the department relied on 1:17,500-scale aerial infrared film to inventory tree species, size and condition in the province's forests.

In 2000, the scope of the project expanded dramatically to include land-use/land-cover mapping for the entire island so that changes in all types of natural resources could be better monitored. According to Mary Lynn McCourt, the Department's Geomatics Supervisor, this large-area mapping will make PEI "the first province in Canada with the capability to monitor land-use changes on a provincial scale."

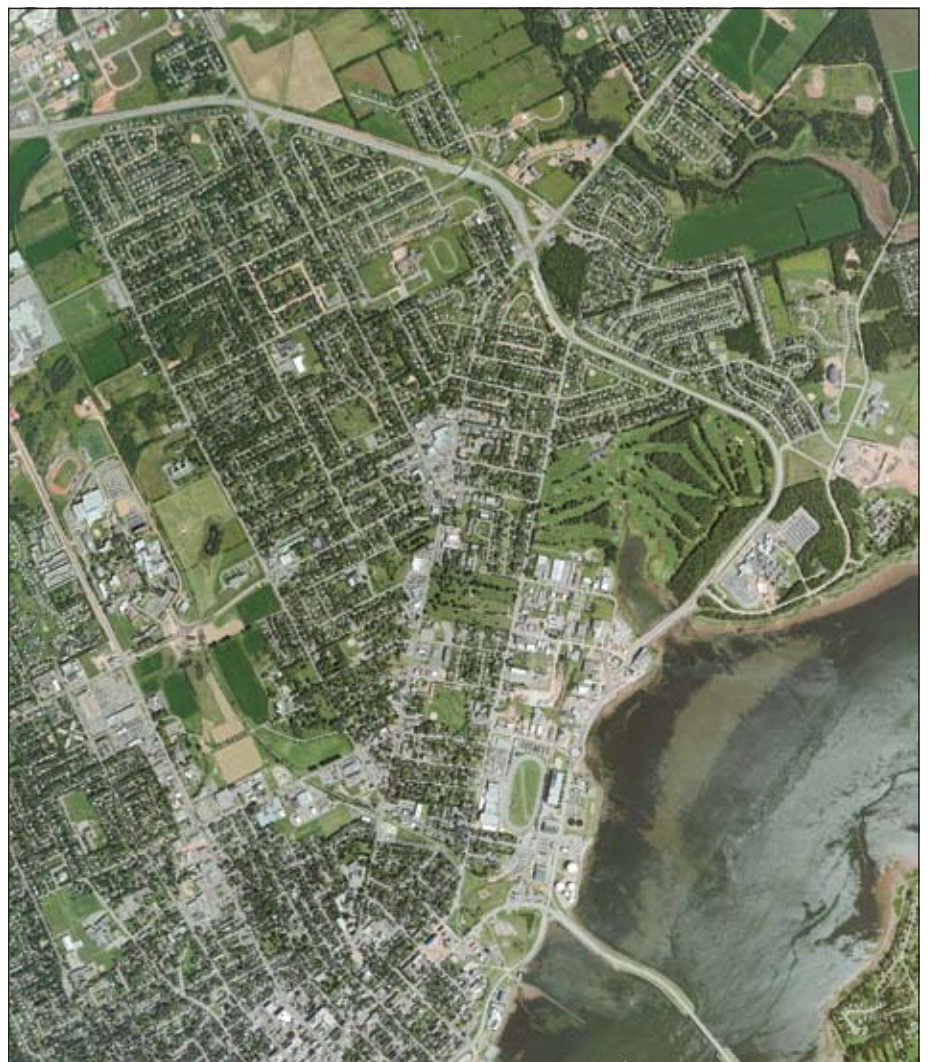
In preparation for the 2010 project, the department contacted other provinces and found some had already switched to all-digital imaging and mapping. PEI decided to do the same and released an RFP seeking airborne digital image collection and orthorectification services.

Airborne image of Charlottetown, provincial capital of Prince Edward Island

"The real challenge of this project was completing the airborne segment in the specified acquisition window due to the weather conditions on the East Coast of Canada," said Rob Kragt, Director of Geomatics for TDB, a resource

management, Geomatics and engineering firm located in Prince George, British Columbia, with an office in Moncton, New Brunswick.

Bidding as the prime contractor, TDB knew Midwest Aerial operates a Z/I Imaging DMC II-140, a large-format digital sensor capable of acquiring imagery in four spectral bands simultaneously: Red, Green, Blue, and Near Infrared. This capability would provide PEI with the option of generating both natural-color and color-infrared images from a single



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data set. In addition, the DMC II could collect 40-cm resolution within the same budget that once paid for one-meter film acquisition.

“On the Atlantic Coast, mission planning is tricky because fog rolls in in the morning, and then clouds and haze appear in the afternoon,” said Midwest Aerial President and Founder, Ken Scruggs.

That left just an hour or two window each day for collections at the planned 16,500-foot altitude. Midwest Aerial deployed one of its aircraft to the site twice over a period of two weeks and kept the plane there for several days each time. When the weather opened up, the pilots were in the cockpit and airborne within minutes. Although brief, the open weather windows turned out to be remarkably clear for a summer acquisition.

“We were able to complete a good flight on most days,” said Scruggs.

Once the imagery was acquired, Midwest Aerial shipped the image data along with airborne GPS/IMU data back to

TDB headquarters in British Columbia for orthorectification. TDB had never orthorectified Midwest Aerial’s large-format digital imagery before, but its Intergraph OrthoPRO software was fully compatible with the DMC II data. TDB’s Kragt was pleasantly surprised with how quickly and easily the digital processing proceeded.

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TDB had no problems completing the orthorectification within the specified time period and delivering digital orthomosaics to PEI, which contracted a third party for heads-up digitizing of the nine land-use/land-cover classes.

“This was a project that never encountered any hiccups or problems,” said Kragt. “We’ve since sub-contracted to Midwest Aerial for several other DMC II acquisitions.”

The PEI Department of Agriculture and Forestry was equally impressed. The image clarity and sharpness of detail in the orthoimages were two characteristics that caught everyone’s attention right away. According to PEI’s McCourt, the rich information content of the 40-cm imagery enabled them to tighten up many of the buffer zone boundaries around sensitive features, such as wetlands and streams, in the map products. And the mapping technicians were able to delineate smaller land features than they could with film.

“We didn’t have any of the color balancing problems that we used to have with infrared film,” said McCourt. “There were always color problems along the land-water interface that caused us to do a lot of re-prints. We didn’t have to do that with the digital images.”

McCourt said the combined benefits of greater spatial detail and ability to generate natural color and infrared images from one data set have expanded the applications of the orthoimages within the PEI provincial government. She believes every department or agency is now using the orthoimages or the maps extracted from them.

“We’re very pleased we went digital and plan to do the same in the future,” said McCourt.

CORPORATE PROFILE

Midwest Aerial Photography

For 24 years, Midwest Aerial Photography has focused on acquiring aerial imagery and photography of the highest quality to support photogrammetric mapping projects across the U.S. and Canada. Our goal is to meet 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.

Midwest Aerial Photography

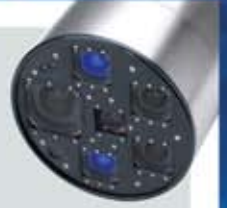
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Announcing...

Unparalleled Digital Imaging Capabilities



Three DMC II Cameras for Fast Deployment Anywhere in North America



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.



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youtube.com/user/MidwestAerialPhoto

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