



GEOGRAPHIC INFORMATION SYSTEMS

AMEC Cuts GIS Production Time by 50% and Improves Accuracy with Wacom's DTZ-2100



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– Justin Graham
Manager of
GIS group

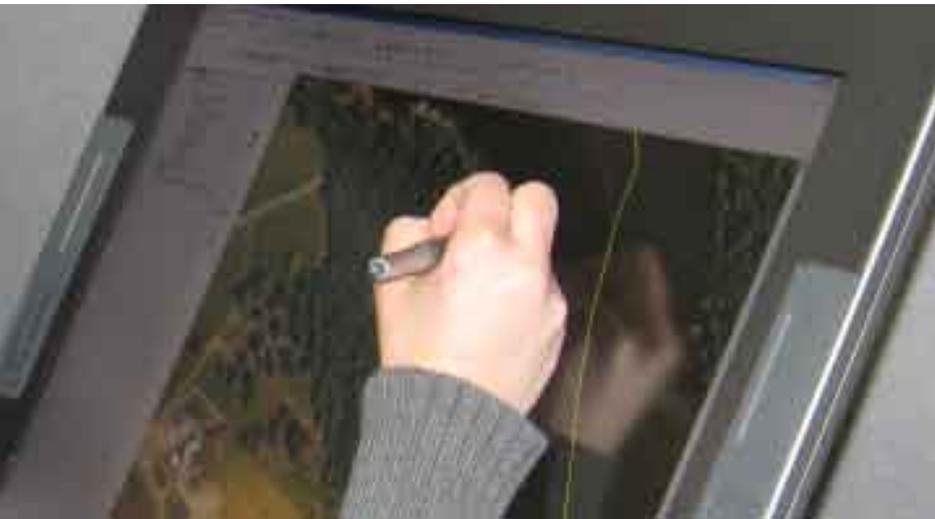
AMEC, the international engineering and project management company, and a leading provider of flood hazard identification and mapping, multi-hazard mitigation and post disaster recovery services was contracted by the Federal Emergency Management Agency (FEMA) to develop deliverables under the National Flood Insurance Program (NFIP).

The objective of FEMA's NFIP Map Modernization (Map Mod) Program is to capture updated flood hazard data and reduce the reliance on paper products by transitioning to digital processes for distributing and reading flood maps.

One of AMEC's key roles in the Map Mod Program is to provide digital flood insurance rate map (DFIRM) production. Digital conversion of FIRMs requires significant production time. It involves scanning paper FIRMs, georeferencing the scanned image, and using the georeferenced image to support heads-up digitizing of thematic features related to flood risk assessment. With the project workload, AMEC recognized a need to eliminate some inefficiency within the FIRM digital conversion workflow in order to optimize productivity and produce a superior product for the client.

The AMEC team turned to the innovative technology of Wacom's DTZ-2100 interactive pen display to streamline their GIS data production process. The pen display allows users to draw directly on the 21" LCD monitor, providing comfortable, efficient and fast input.

As manager of AMEC's GIS group in Nashville, Tennessee, Justin Graham is overseeing the digitization of flood plain maps for 30 to 40 counties



There are numerous ergonomic advantages to the DTZ-2100 including reduced repetitive motion through its comfortable pen on screen capabilities and adjustable stand.

a year. Justin embraced workflow innovation when he integrated Wacom hardware into his existing data conversion and data collection processes. “We wanted to ensure that we were as efficient as possible with our use of staff time and production resources utilized on the FIRM digital conversion process,” says Graham.

GIS staff could now digitize floodplain features by utilizing a pen on screen as a replacement to the existing mouse-based digitizing process. “By using the pen, with streaming mode enabled in our software, you can just sit there and draw a nice smooth line,” Graham noted.

Graham’s team cut the data creation time by more than 50 percent by switching from mouse-based to pen-based user input. The immediate time-savings translated into a significant return on investment. “The DTZ-2100 paid for itself after doing just one county map, and we’re doing up to 40 counties a year,” says Graham. “Every hour that we cut from our production workflow represented real dollars saved that justified the investment in the DTZ-2100.”

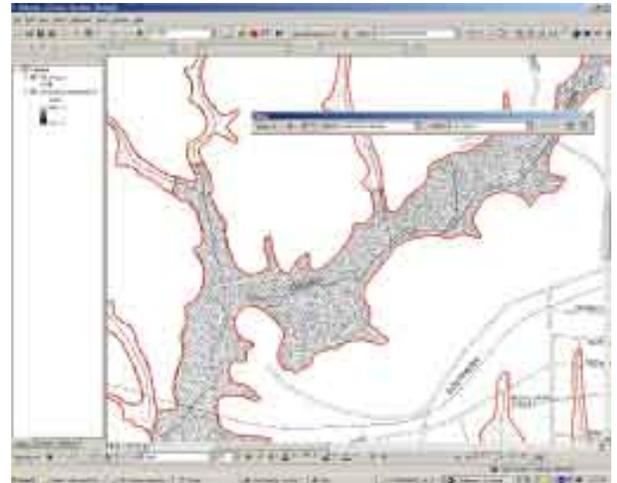
Graham also reports that production was approached with increased enthusiasm because of the comfort of using a pen-based workflow. This meant less physical and mental fatigue for the production team. “Employees are valuable. You don’t want them to run out the door because their right hand hurts from clicking a mouse for hours on end. We found that our team continued to improve almost exponentially as they spent more time working with the pen in hand,” notes Graham.

Most of the flood map work at AMEC is done with ESRI software, and regular users like to set the DTZ-2100 according to their preferences. “The DTZ-2100 has quick keys on the side and people customize those keys for specific functions like panning and zooming, instead of looking up for the zoom button,” says Graham. “Everybody has their own unique methods to utilize software shortcuts with the quick keys.”

In addition, Graham says the ergonomics of the DTZ-2100 enable greater accuracy. “We noticed improved precision of our digitized features when we compared data collected with the pen to data collected with the mouse. The mouse-based digitizing led to inaccurate line segments that required manual clean-up and the potential for topology errors. The Wacom pen was a more natural tool for digitizing features and it provided us with cleaner, more precise data.”

Graham sums up the impact of the DTZ-2100 on his department succinctly:

“We’re consultants, so we want to think of faster and better ways of pleasing our clients with exceptional work,” he says. “The DTZ-2100 more than fits the bill, with dramatic time savings, more efficient workflow and increased employee and client satisfaction.”



The DTZ-2100 blends smoothly with ESRI’s ArcMap software for precise and fast workflow.