Capturx Case Study

Snohomish Surface Water Management

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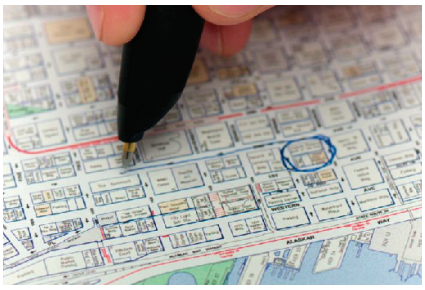

Summary

Organization profile: Surface Water Management Division. Field workers, collecting data to protect and restore natural water resources.

Challenges: Field staff are often exposed to wet and muddy climates. Expected to collect vast amounts of data that drive critical decisions.

Solution: Capturx digital pen and paper software platform from Adapx.

Benefits: Efficient use of time and resources lead to quicker, well-informed decision-making. Software is intuitive to use and requires no training. Significant ROI based on time savings.

Public Works Agency Uses Capturx to Improve Field Data Collection Speed, Accuracy, and Productivity

The Surface Water Management Division of Public Works in Snohomish County, Washington, takes a comprehensive approach to managing surface water. In addition to maintaining the public infrastructure investments the agency also works to minimize flooding while protecting and restoring important natural water resources. Half of the agency's 80 employees are in the field – managing vast amounts of constantly changing data. To gather information quickly and keep their central GIS data up-to-date, the agency launched a pilot program using Capturx for ArcGIS digital pen and paper software.

Challenges

The Surface Water Management Division of Public Works has a broad mandate and serves a range of constituents. Drainage systems need to minimize flooding. Storm water discharge must be as clean as possible. Rivers, creeks, wetlands, and estuaries require protection and restoration. Large public investments in pipes, ponds, and shorelines also require ongoing maintenance. The agency dedicates half of its workforce to constantly measure and analyze the current state of both constructed and natural drainage systems. Managing volumes of data over long periods of time is a necessary part of their work.

The Surface Water Management team also works closely with the citizens of Snohomish County, focusing on longer-term community building. Those efforts include personal technical assistance for property owners with drainage challenges or water quality issues. The agency supports stream side landowners and encourages actions that promote aquatic health ranging from replanting native vegetation to building fences to keep livestock out of streams. The team is very hands-on, building partnerships with landowners, businesses, and groups in the community to help regain and preserve the vitality of Snohomish County's network of natural streams.

Tracking and coordinating such an extensive set of mandates, data, and field personnel is a major challenge. Information changes frequently. In order for the team to make the best decisions for the community, they need access to the most current data.

Extreme field conditions

They faced other challenges in the very nature of how water management teams work in a wide array of wet field environments and variable conditions. Collecting data on storm drainage patterns often involves engineers floating down rivers, wading through streams, or trudging into wetlands which are exposed, wet and muddy. Laptops and rugged PCs are heavy, difficult to use with large format maps, and expensive.

Solution

To improve information flow from the field, the Surface Water Management Division selected Capturx for ArcGIS and Capturx for Microsoft OneNote to test new field data collection and management techniques.

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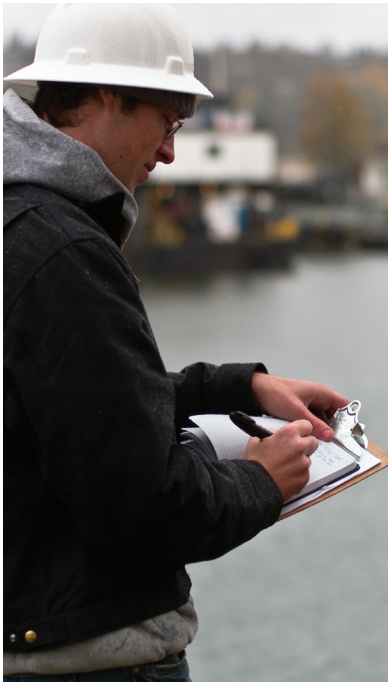

"With Capturx, virtually anyone can begin using it right away, and we have greater flexibility in a variety of weather conditions. There is no need to learn a new technology or do any data entry."

Senior GIS Analysts
Surface Water Management
Snohomish County

With Capturx, field maps and layouts are created within ArcGIS: the same way that the team prepares and prints maps today. The maps are printed on normal paper and digitally enabled with a unique background pattern which the digital pen senses as the pen writes. Each stroke of the pen on the paper map creates a new feature or a red-line annotation which is geospatially referenced and added to the geodatabase. Once the pen is docked into its USB port on a PC or laptop, the field data automatically appears in ArcGIS. There is no new technology to learn or data to re-enter.

The team also uses Capturx for Microsoft OneNote, which utilizes a Rite in the Rain all-weather journal. Notes that would normally be written on paper and remain inaccessible in notebooks or on desks, now become digitized and easily accessible. The notes and drawings are sent directly into Microsoft OneNote, leaving a paper copy in the notebook. The all weather journal is perfect for the surface water management task.

Benefits

Faster and better decision-making
Capturx integrates seamlessly with ArcGIS and with OneNote, making data uploads and management very easy. With the improved workflow, the agency expects lower personnel bandwidth issues for data entry. Once they have the data with Capturx, it can be immediately uploaded and shared among team members. Eliminating the need for support staff to decipher and transcribe field notes increases the data accuracy and integration speed. The agency can review important information with key personnel more quickly, enabling better data analysis to serve customers more efficiently.

Works the way they work
With the natural pen interface and direct integration into ArcGIS, virtually any team member can begin using it right away. The pen also lets field teams work in surface water with greater flexibility in a variety of weather conditions. The agency is able to easily deploy digital pens to field staff with virtually no training.

Immediate ROI
The Surface Water Management Division expects meaningful cost savings from using the Capturx platform and digital pens, compared to traditional pen-and-paper mark ups or other technology solutions. Key gains are anticipated from the impact of time savings, more efficient decision-making, and cost of ownership.

Future Plans

For the future, the team also foresees expanding the scenarios of Capturx for ArcGIS to include:

- Heavy Image Satellite Classification
- Vegetation monitoring and identification
- Locating existing utilities
- Note taking at public meetings

The Surface Water Management Division is also interested in exploring the use of Capturx with forms to speed up current pen and paper processes.