



Disaster Response

Challenge

When a natural disaster strikes, it often takes a long time to collect and share damage assessment data.

Solution

Using Survey123 for ArcGIS®, emergency responders can quickly create, share, and analyze surveys for damage assessment.

Results

Within hours following a series of storms, Harrison County Emergency Services used Survey123 and ArcGIS™ Online to collect, map, and share crucial data.

Storm Damage Assessment with Survey123 for ArcGIS®

When a series of storms rolled through Harrison County, West Virginia, one Sunday evening, it left substantial wind damage in its wake. As the storms battered his region, Paul Bump, director of Harrison County Emergency Services, started contemplating a plan of action.

“On Monday morning, when I arrived at work, I began working with Survey123 for ArcGIS,” Bump said.

Survey123 for ArcGIS is a simple and intuitive formcentric data gathering solution that enables users to create, share, and analyze surveys. The app, which is included with ArcGIS Online, is designed to replace paper-based data collection. It’s available for smartphones, tablets, and desktop computers, and it works even when disconnected from the Internet.

“In about an hour and a half, I was comfortable enough with a survey I’d written to begin mapping the storm,” Bump said. “We hit the road to capture both locations and photos of some of the damage.”

To assess storm damage, Bump and one other person from his team used Survey123 on a Samsung Galaxy Note smartphone. After about six hours in the field, they returned to the office to figure out how to visualize the photos and locations they collected. Within just a few minutes, Bump used the survey data and ArcGIS Online to create an online map showing definitive storm progress. He then shared the map with first responders as well as state and county officials.

Bump also shared the map and data with the National Weather Service in Charleston, which had its own crews on the ground surveying the damage. The Survey123 data and online map ensured that the National Weather Service could focus its work in the right areas and confirm the path of the storm.



Storm damage data collected with Survey123 for ArcGIS and displayed on a map in ArcGIS Online helped the National Weather Service with its post-storm work.

“Survey123 proved beneficial and easy to use.”

—Paul Bump, Director
Harrison County
Emergency Services

Bump said he first learned about Survey123 at the Esri User Conference. To make the storm damage assessment survey, he took advantage of online help from ArcGIS user forums and from basic Internet how-to searches.

“We still have a lot to learn [about] capturing photos and data, but the Survey123 app proved extremely valuable right out of the gate,” Bump said. “We did learn that for field use of the survey, it’s much easier to use yes or no questions or pick one type questions.”

The primary data goal for the initial Harrison County storm damage assessment was to find out what and where—GPS points and photos of damage. The survey included other fields for owner, notes, etc. In light of the initial success, Bump said the county has expanded its use of Survey123.

“Survey123 proved beneficial and easy to use,” he said. “We have created a few other surveys that are being deployed now. One is being used by Amateur Radio to log the effectiveness of their radios at various potential shelter locations. We also have fire departments collecting data on roadway conditions that might prohibit traversal by a fire engine.”



Learn more at esri.com/survey123.