The Map Maker

Binghamton, NY Branch 333 member **Mark Avery** recalled his father's passion for maps on family trips.

"We traveled a lot, and he liked to have maps of all the counties in the U.S.," he said. "We all had a map of where we'd been and when we'd been there. Geography was important to him."

It made an impression on Avery, and in college he turned to an emerging technology: geographic information systems (GIS), which uses computers to collect, analyze and display mapping data. "One of my instructors thought I'd be good at it," he said. Avery studied GIS at the University of Montana and then earned a graduate degree in remote sensing—the use of aerial and satellite images to determine what is on the Earth's surface—at Northeastern University in Boston.

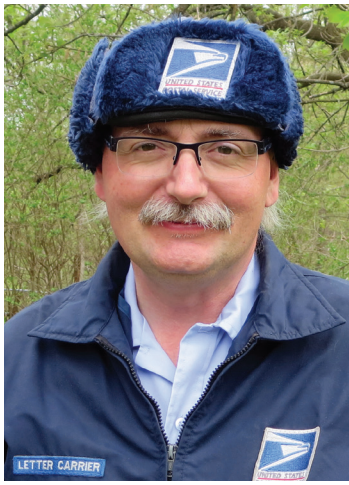
After college, Avery went on to work as a certified gemologist and as a glass worker before being hired as a letter carrier 15 years ago, but he never lost his passion for maps. He volunteered to use his skills for GIS Corps, a non-profit group that creates maps for the public interest.

One GIS Corps project he worked on helped an archeological organization analyze what was happening in areas controlled by terrorists: "We were using satellite data to document how ISIS has destroyed archeological sites in the Middle East," he said, referring to the extremist Islamic State group. In the process, Avery also discovered an ISIS surface-to-air missile site.

He also helped medical teams find people in remote locations in West Africa who might have been affected by the Ebola outbreak that occurred from 2014 through 2016, and he helped document the damage done by Hurricane Sandy on the East Coast of the United States in 2012.

Avery later signed up as a volunteer for the Federal Emergency Management Agency (FEMA) on a similar mission to devote his skills to public service. FEMA relies extensively on GIS to direct relief efforts to where they are needed in places affected by disasters. GIS also helps FEMA predict and plan for disasters, assess damage and needs after a disaster and find the best ways to connect help with communities.

For FEMA, Avery documented damage caused by Hurricane Matthew—which hit the southeast last October—and created a map showing what emergency assistance was provided, by county and congressional district. Avery's work also showed damage at dams and helped to identify which ones might fail.



Above: Mark Avery

Below, left: A sample of the maps he works on

Avery thinks that FEMA would like to create partnerships with the Postal Service because letter carriers know their neighborhoods so well. "The Postal Service could do in a day or two what it takes FEMA a month to do," he said. "FEMA has to bring people in; they have to set them up; they have to connect with people to find out who has damage and who needs help." Letter carriers, on the other hand, often provide the first contact that some disaster survivors have with the outside world, bringing vital information, supplies and a sense of hope.

Avery sees working both as a letter carrier and for FEMA as a natural fit, as both involve service to the public. "It seemed like a great way to combine my GIS disaster-relief skills and my federal service," he said. **PR**