

TTS IMPACT

Making water data more accessible through user research

USGS partnered with 18F—a program within GSA's Federal Acquisition Service's Technology Transformation Services (TTS)— to do research to help users access water data.



THE U.S. GEOLOGICAL SURVEY'S STORY The U.S. Geological Survey's (USGS) Water Resources Mission Area (WMA) has been making water data available online for 25 years on waterdata.usgs.gov. As a part of modernizing their website, the WMA also wants to make their water data easier to find, easier to access, and easier to use.



THE CHALLENGE

WMA's water data has grown in size, scope, and complexity. It established many new measurement locations and collected new data types. Striving to display all of this data has complicated the USGS's websites.

A broad set of users interact with the data on the site. These users have varying levels of knowledge about water data and how that data is organized. To develop a new solution that better serves their user community, WMA first needed to understand more about user goals and use patterns.



THE SOLUTION

USGS partnered with 18F to identify areas of improvement in user experience, including navigating the site and helping users find data quickly and efficiently.

The WMA was also looking to build human-centered design capabilities internally. Using user-centered research and lean software development methods, we helped manage risk and ensure that what USGS built will work for their WMA users' needs.

USGS set up video calls with users walking them through how they found what they needed in the system. This experience showed USGS what was or was not effective. This research led to new insights about user goals and archetypes. The team used them to develop a series of prototypes, which they used to do further research and usability testing during the Experiment and Iterate phase. This prototyping goal was to get designs in front of users to see how they would complete a given task with the interface.

At the same time, the team developed a broader strategy for managing the more than 17 public-facing water data products that WMA supports. These data products include methods for prioritizing areas of work and for providing a coherent user experience across the product ecosystem.



THE IMPACT

As they first considered data and user-experience together, the process gave USGS insight into their customers far beyond what they originally knew or expected. Prototyping resulted in a reorganized data taxonomy that lets users search, filter, and explore by what they know.

While application programming interfaces (APIs) and data architecture still need to align with the improved front end, prototype testing showed that new and long-term users alike were discovering data they didn't know existed. Users were able to navigate more efficiently to the data they wanted.

Each iteration gets the USGS closer to its goal of a page that is easy to navigate and retrieve data from. The USGS team is now actively conducting design research and testing. Stakeholder engagement has already started to carry over to other internal projects as well.



THE RESPONSE

"One of the coolest things we've learned is about how we identify our users. This system has been around for decades—people could work on something like this for so long and never have insights like this. It's been really neat to work through the process with our 18F colleagues." — **Emily Read, USGS Branch Chief**

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