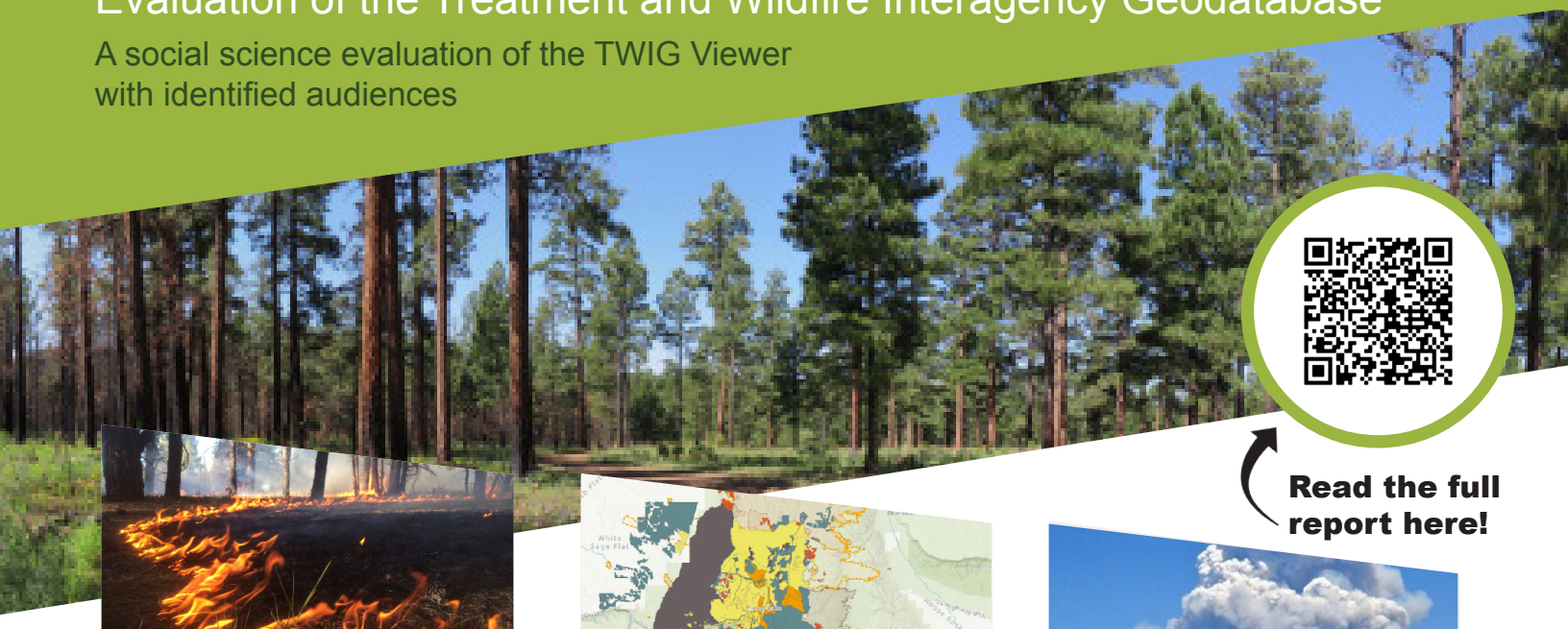
Summary:

Evaluation of the Treatment and Wildfire Interagency Geodatabase

A social science evaluation of the TWIG Viewer with identified audiences

SWERI Southwest Ecological Restoration Institutes
Colorado State University | New Mexico Highlands University | Northern Arizona University

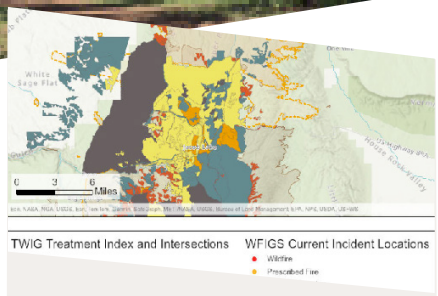


Read the full report here!

Background

The Southwest Ecological Restoration Institute's Re-SHAPE program, in response to a request from Congress, created the Treatment & Wildfire Interagency Geodatabase (TWIG) and open-access web viewer (TWIG Viewer). TWIG compiles and displays existing federal data on fuel treatments and wildfire.

To ensure that TWIG meets the needs of users, we assessed the user interface, utility, and applicability of TWIG through 37 interviews with wildfire and forestry practitioners who may use fuel treatment and wildfire data for their work.



Results: Valuable Features

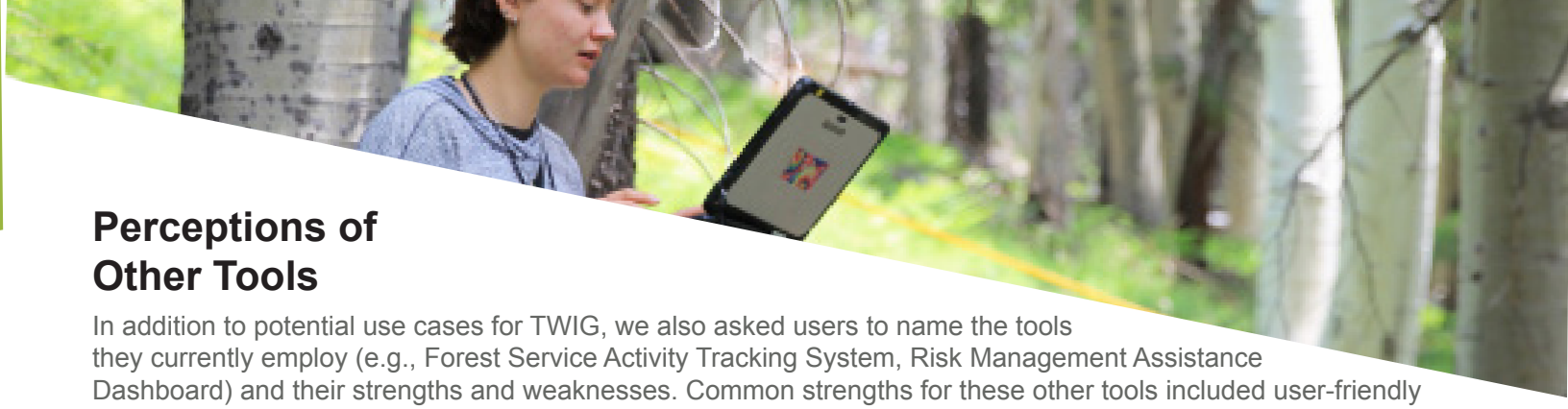
- Access to datasets that previously required login credentials, GIS expertise, or both
- A user-friendly interface compared to other GIS tools
- By establishing a known history of work, TWIG helps users ***"tell stories in a common basis nationwide"***
- Supports collaborative groups in articulating priorities and identifying areas of overlap
- Validates work done to protect landscapes

Results: Areas for Improvement

- Though outside TWIG's control, data quality issues in federal data sources (e.g., inconsistencies, duplications) reduce the dataset's power to inform decisions, thereby presenting a barrier to use
- Tool fatigue, with users feeling overwhelmed by the number of tools available
- Lack of National Environmental Policy Act (NEPA) planning assessment data
- Limited inclusion of state and private data, reducing TWIG's usefulness for informing some documents

Who Benefits from TWIG...

- Elected officials seeking credible, accessible information
- Researchers analyzing treatment-wildfire interactions
- Managers and partners planning and evaluating collaborative strategies



Perceptions of Other Tools

In addition to potential use cases for TWIG, we also asked users to name the tools they currently employ (e.g., Forest Service Activity Tracking System, Risk Management Assistance Dashboard) and their strengths and weaknesses. Common strengths for these other tools included user-friendly interfaces, the ability to collate multiple data sources into one repository or access point, and functionality or data that facilitated collaboration. Common weaknesses for tools included missing one or more federal, state, or local datasets, inaccuracies between tools and on-the-ground conditions, and lack of trust in data quality.

Feedback to TWIG Developers

As of the writing of the TWIG evaluation report (August 2025), TWIG remains under active development. While some of the feedback remain outside of the control of the TWIG platform (e.g., data quality issues with federal systems of record), users provided insightful critiques for improving the platform's functionality and user experience.

The table below includes the subset of TWIG feedback provided to the development team for future implementation, as well as its current implementation status.

Feature Request	Implementation Status (as of 2025)
Include "agency" as another option for fuel treatment symbology (i.e., how polygons are color-coded)	Completed
Include user-uploaded layers as selectable layers for the Area Summary tab	Completed
Allow multiple selections for treatment type and other filterable fields (i.e., can select both "thinning" and "mastication" instead of one or the other)	Planned
Offer optional "buffer" filter for treatment intersections (i.e., have the option to select not just intersecting treatments, but any treatment within a certain, adjustable distance)	TBD
Add state as a filterable attribute of treatments and wildfires	TBD
Provide an export option to the Representative Summary report, including figures	Completed
Adjust figure and symbology color palette for colorblindness	TBD
Identify in-progress treatments in addition to completed and planned treatments	TBD

The Future of TWIG

Based on user feedback, future directions for the TWIG Viewer will focus on encouraging the tool's adoption and building a consistent user base. To do this, outreach will focus on workshops and webinars with a variety of audiences that could benefit from the tool. Ultimately, the success of the TWIG Viewer will continue to depend on the iterative nature of its outreach and development. By consistently incorporating user feedback, TWIG will continue to facilitate investigation and communication about how fuel treatments and wildfires interact, how their interaction improves the resilience of landscapes, and how to efficiently protect communities against wildfire risk.

This fact sheet summarizes information from the following report:

Franz, S.T., Courtney, K., Rapp, C., Colavito, M.M., Cheng, A.S., Heusinkveld, D., Withnall, K. & Dappen, P. (2025). A Good TWIG: Evaluating the Treatment and Wildfire Interagency Geodatabase Viewer. Southwest Ecological Restoration Institutes.

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ReSHAPE