Publication

Tracking wildfire risk to California railroads: integrating environmental data and railway operations

Haley & Aldrich's Daniele Spirandelli, David Rother, and Michelle Toner — along with co-authors Karl Kim and Eric Yamashita of the University of Hawaii — have published an evaluation of rail infrastructure's vulnerability to wildfires in California. Their research offers a replicable, scalable approach to disaster planning for the rail industry.

"Innovative, comprehensive climate adaptation planning is needed to prepare the transportation sector and the communities they serve for increased fire risk," write the authors in "Tracking wildfire risk to California railroads: integrating environmental data and railway operations" (published in the July 2025 volume of the peer-reviewed journal *Transportation Research Interdisciplinary Perspectives*).

To advance this goal, they detail both their methodology and the results of their analysis. Analyzing segments of railway in California based on vegetation, terrain, and other risk factors, the authors determine that Cajon Pass — the route for most rail traffic into and out of Los Angeles — "has the longest stretch of track exposed to very high burn probability (relative to the total track length)."

This research, writes the authors, builds the foundation for "a broader vulnerability assessment framework on the exposure, sensitivity, and adaptative capacities of railways exposed to wildfire and other climate hazards at the state or regional level."

Read the full article.

HALEY ALDRICH