



Publication

Highway 1 Rat Creek embankment failure: 2021 reconnaissance and analysis

Haley & Aldrich consultants Phil Gregory, Reid Fisher, and Justin Lindeman have coauthored a new Geotechnical Special Publication, *Highway 1 Rat Creek embankment failure: 2021 reconnaissance and analysis*. The ebook explores the causes of a January 2021 roadway collapse in Big Sur, California, when a section of Highway 1 washed out following record-setting rainfall.–

In the ebook, they probe the causes of the washout and offer recommendations for safeguarding against similar failures — a key concern for those designing and constructing infrastructure in California and elsewhere, as hazards like wildfires and extreme storms are expected to increase with climate change.–

Mobilized by the Geo-Institute Embankments, Dams, and Slopes Technical Committee, the authors headed up a reconnaissance mission after part of the highway collapsed near the town of Esalen, causing a 150-mile detour for drivers. They collected and analyzed aerial, terrestrial, and historical data to pinpoint the causes of the embankment failure. This analysis revealed that, when a large rainstorm lingered over the area in late January 2021, water breached a natural dam in nearby Rat Creek and spilled over Highway 1, eroding the road's embankment and, ultimately, the road itself. A previous year's wildfire likely intensified the creek's overflow by burning off surrounding vegetation, making the area more vulnerable to heavy water- and mudflows and leaving behind debris, such as fallen trees, that made the flow more destructive.–

Phil, Reid, and Justin detail their methods and findings in this publication, offering a case study that sheds light on how similar infrastructure failures happen and how engineers can design and build more resilient infrastructure to withstand future extreme weather and natural disasters.–

To purchase the ebook, visit the [American Society of Civil Engineers library](#).-