



The Geo-Institute Embankments, Dams and Slopes Technical Committee will live-stream the session **“EDS Extreme Event Research and Emerging Trends”** on Wednesday, December 4, 2024, from 11 am - 1 pm EST. The topics include:

“Lessons in Scour Erosion Induced Landsliding From Site Development” Bret Lingwall

This presentation will discuss the impact of scour erosion on slope stability. In particular, scour erosion at the toe of the slope is a key causal mechanism in the triggering of landslides. This case history shows how redirection of runoff from a large site development lead to over 20-ft of scour at the toe of a slope triggering a landslide in bentonitic shales. Lessons for attendees include consideration of surface water choices by site civil engineers and impacts on geotechnical systems. The critical importance of identification and characterization of thin but very weak layers is highlighted in the case history as a 5-cm bentonite band is the likely failure plane in the case history.

“Railroad Responses to Extreme Events” Caleb Douglas, Ph.D., P.E.

Railroads in the United States have been responding to extreme events since they were constructed, most over 150 years ago. Case histories will be presented to demonstrate the impacts from extreme events on the railroads. Common themes in railroad responses and considerations for engineers responding to these events will be described.

“Fire, flood, and mud: Assessing postfire debris-flow hazards across Western U.S.”

Jason Kean, U.S.G.S.

This presentation will discuss post wildfire debris-flow hazards across the Western U.S. including increased runoff, erosion, and debris-flow volume.

“Considerations of compacted clay strength under extreme wetting- drying cycles”

Ghada Ellithy, Ph.D., P.E.

This presentation will discuss some considerations of the shear strength of compacted clay materials when exposed to longer periods of drought and extreme rainfall events.