

Comprehensive Geologic Hazard & Risk Assessment in Yosemite Valley

Rockfalls have long occurred from the walls of Yosemite Valley, some with damaging or fatal consequences. The NPS mapped the “rockfall hazard zone” several years ago (the zone near cliff bases where rockfalls are most likely and development most inappropriate). However, more recent falls at Curry Village in 2008 and the Ahwahnee Hotel parking area in 2009 demonstrate that better understanding of geological hazard and risk levels are needed because rocks fell or rolled into areas not thought to be at risk. To understand and mitigate the rockfall hazard, improved mapping is needed.

This project would provide the scientific data needed to properly evaluate geological hazard and risk for developed and potentially developable areas within the Merced River Corridor. Such mapping would include areas between Happy Isles and Swinging Bridge, the Taft Toe/El Capitan Crossover area, the Bridalveil Falls parking lot, El Portal, and Wawona. This project, conducted in collaboration with geologists, engineers, and risk assessors from the U.S. Geological Survey and others, would utilize new and existing field mapping, determinations of talus volume and age, laser scanning, rock-fall susceptibility analyses of cliff faces, and sophisticated rock-fall runout simulations. These tools would inform the probability of rock fall, rock slide, and debris flow events in developed or potentially developable areas and would also include quantitative risk assessments for these areas.