

Kate Peak Lahar Deposit

GPS Coordinates: N39°30.229', W119°54.016 (WGS 84 datum)

Last Chance Ditch Trail, south of Mayberry Park

Short Description

The Reno area may not have any active volcanoes today, but this deposit is evidence of volcanic activity here in the past. Geologists believe that it was deposited by a lahar (volcanic mudflow) associated with the ancestral Cascade Range about 12 million years ago.

Long Description:

Lahars are mudflows or debris flows composed mostly of volcanic materials that flow down the flanks of a volcano. These flows of mud, rock, and water can rush down valleys and stream channels at speeds of 20 to 40 miles per hour (32 to 64 km per hour) and can travel more than 50 miles (80 km). Some lahars contain so much rock debris (60 to 90 percent by weight) that they look like fast-moving rivers of wet concrete. Close to their source, these flows are powerful enough to rip up and carry trees, houses, and huge boulders miles downstream. Farther downstream they entomb everything in their path in mud. Historically, lahars have been one of the deadliest volcano hazards. They can occur both during a volcanic eruption and when a volcano is quiet. The water that creates lahars can come from melting snow and ice (especially water from a glacier melted by a pyroclastic flow or surge), intense rainfall, or the emptying of a volcanic crater lake. Lahars that interacted with glaciers are cold. However, some lahars are very hot, with their water near boiling, because the recently erupted volcanic rock was very hot. Large lahars are a potential hazard to communities downstream from glacier-clad volcanoes such as Mount Rainier on the outskirts of Seattle, Washington.

The Reno area may not have any active volcanoes today, but this deposit is evidence of volcanic activity in the past. Geologists believe that it was deposited by a lahar from the Kate Peak volcano which was active about 12 million years ago with volcanic vents located throughout the northern Carson Range immediately south of here. A lava flow related to this deposit covers much of what is now the Somerset development north of the Truckee River.

Question to be answered to log this site

To log this visit, e-mail your answer to the following question to the site developer (dlapoint@unr.edu) along with the number of people in your group, and if possible, a photo of your group at the Earthcache site.

Question: Looking at the hillside around the lahar exposure in the ditch cut, would you say that the lahar deposit is more resistant to erosion, less resistant to erosion, or about the same as the surrounding rock?

References

U.S. Geological Survey Fact Sheet 0071-00, Landslide Hazards

Christopher Henry, NBMG geologist, 2006, personal communication.

Tingley, J.V., Pizarro, K.A., Ross, C., Purkey, B.W., and Garside, L.J., 2005, Geologic and Natural History Tours in the Reno Area, Special Publication 19, expanded edition. For more details about this book, please visit the following webpage:

<http://www.nbmj.unr.edu/sales/pbsdtils.php?sku=sp19>

Trail administered by the Last Chance Ditch and Irrigation Company
Tony Groux, Administrator and ditch tender, 775 843-8308