

# Tahoe geology more than just granite

By Kathryn Reed

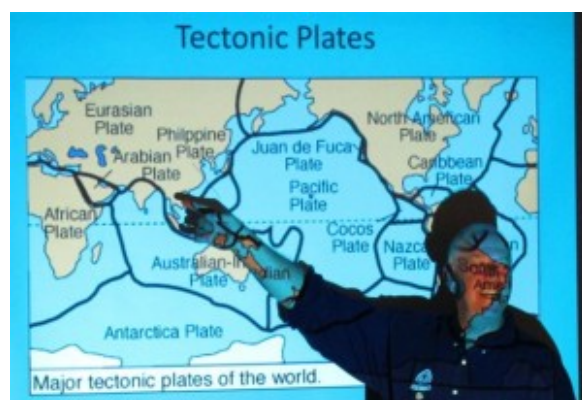
Volcanoes aren't usually something people associate with Lake Tahoe.

However, evidence of their existence is all around. It was volcanoes that plugged the valley to form the lake. Mount Watson, Mount Pluto, Cave Rock and Martis Peak are the major markers of the volcanic activity from millions of years ago.

Lava flow cut off the Truckee River drainage. Volcanic bombs are dispersed in various parts of the Lake Tahoe Basin. These rocks can be the size of a fist and as large as a Volkswagen.

Dave Schnake, local geologist and Tahoe Rim Trail Association board member, spoke about the various geologic formations in the basin to about 90 people last week at the South Lake Tahoe Library as part of the Friends of the Library programs.

"It's not something that happened. It is happening," Schnake said of the changing landscape.



Geologist Dave Schnake talks about rock formations in the Lake Tahoe Basin. Photo/Denise Haerr

Underground activity that finally reached the surface is in large part how the mountains came about.

“When magma reaches the surface you get a line of volcanoes,” Schnake said.

Nevada is full of mountains – having more mountain ranges in the United States than any state except Alaska.

About 70 million years ago this active volcanic activity subsided.

The rocks at Sand Harbor are other evidence of underground objects reaching the surface. Their roundness was formed under water and has nothing to do with wave action.

Most land movement is so minuscule that in a normal lifespan it is not noticeable. Geology tends to be measured in millions of years.

The Sierra Nevada is rising, but it’s hard to notice. Schnake said the biggest movement today is because of groundwater being drained from the San Joaquin Valley. This is pushing them up because it is taking weight off of the mountain range.

It takes something like the earthquake in Nepal to make massive movement. Schnake said Kathmandu moved 10 feet.

Substantive knowledge about plate tectonics wasn’t known until the 1950s as submarines started mapping the ocean floor. Deep ocean drilling also brought forward more information. This led to better understanding of how the continents separated.

The Earth is always moving in some ways – some noticeable, some not.

Areas around Lake Tahoe have had plenty of changes through the years. A chunk of Slide Mountain slid off in 1983, with debris reaching Highway 395. The scar from the slide at Emerald Bay is still visible.

The McKinney Bay slide was more than 10,000 years ago. Schnake said it caused a wave more than 300 feet that sloshed back and forth for days.