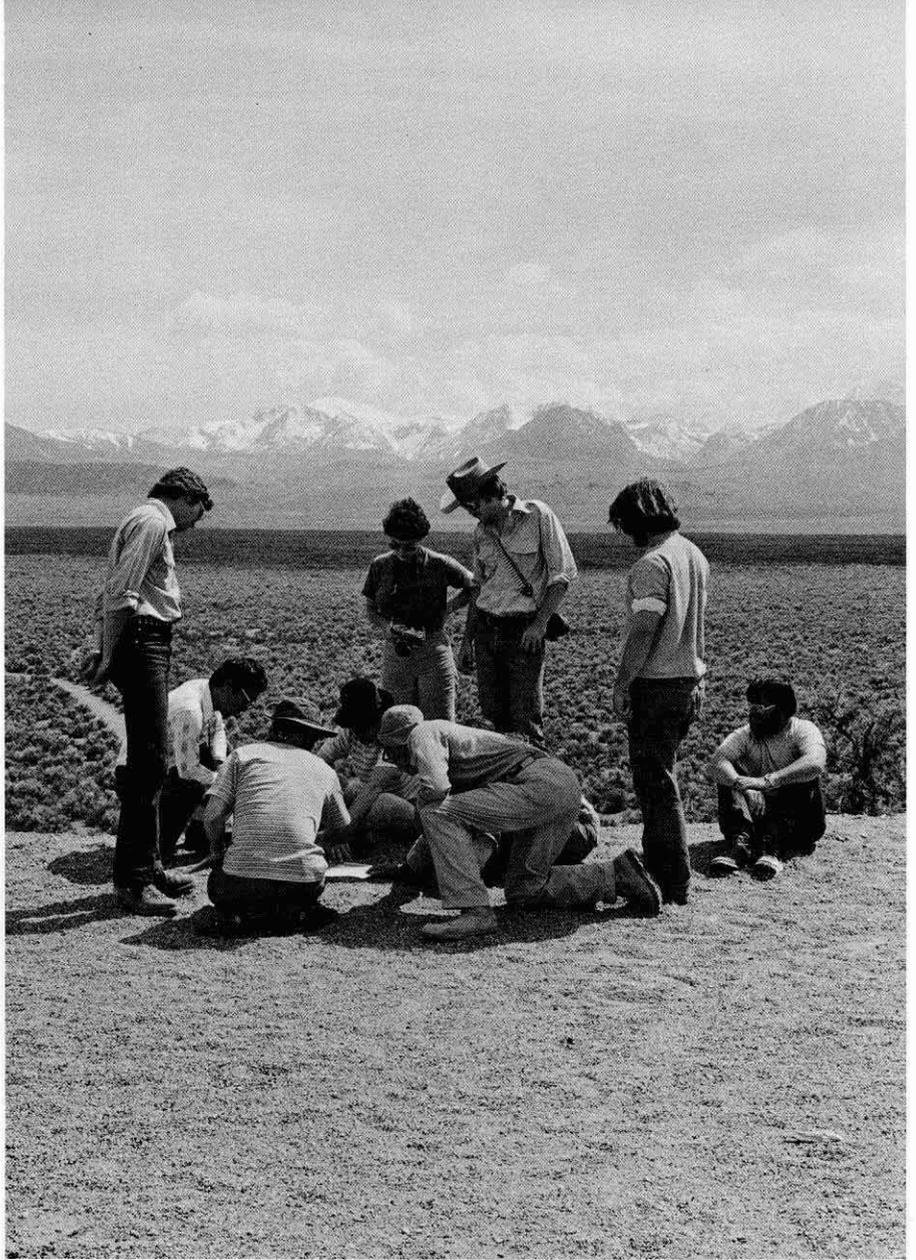
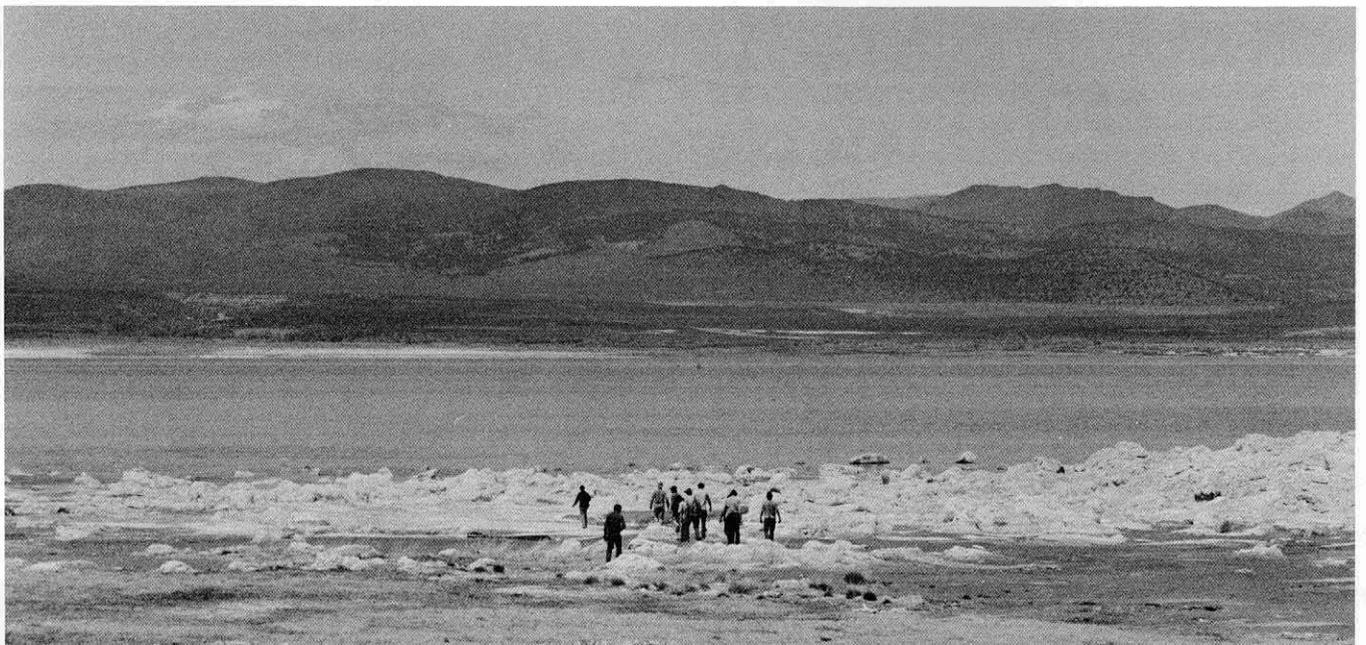


# Ge 136 — It's All Outdoors



Craps? Marbles? Mumbledypeg? No, the Ge 136 class is looking over a map produced by Mike Malin (now a PhD), who was the expert on this area in the Mono Basin.

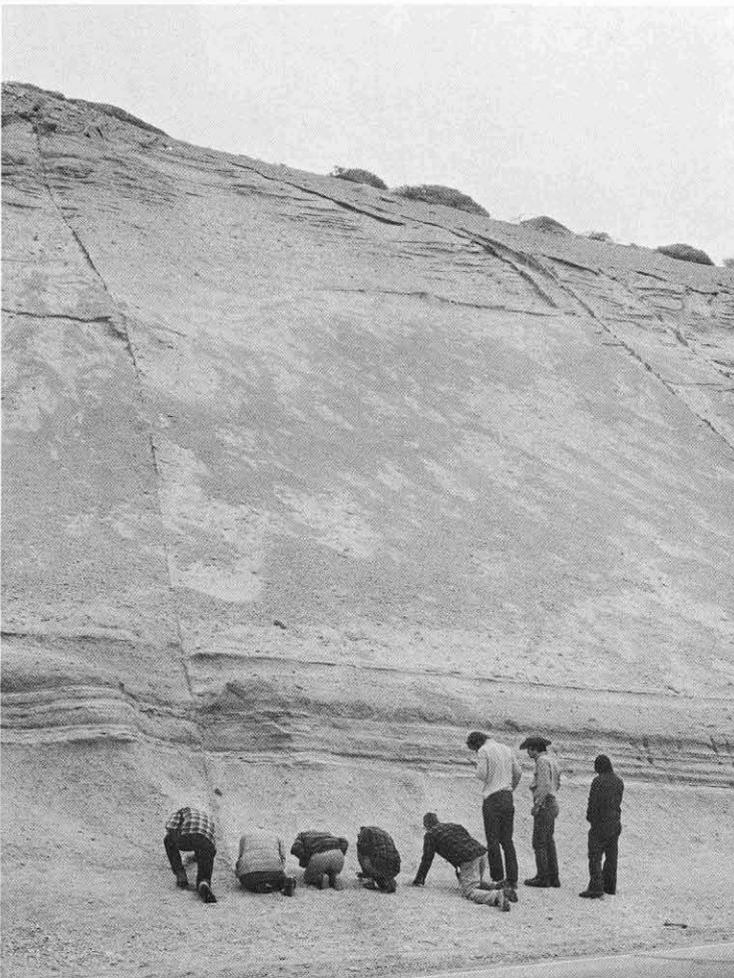
Students hike through the travertine deposits at Mono Lake, which has been shrinking spectacularly since the city of Los Angeles began taking three-quarters of its water. This saline lake, which has no outlet, used to be stabilized.





In the Convict Lake area, Peter German, '77, as resident expert, describes the glacial history of Convict Lake canyon and creek. The lake is behind him; Mt. Morrison (it co-starred with John Wayne in *True Grit*) is on his right.

At the top of Sherwin Grade, which rises northward from Bishop, students collect the glassy minerals that tell the age of Sherwin Till. This big pumice cut is riddled with clear crystals of potash felspar, which can be dated by potassium argon.



Caltech's geology division used to just train geologists. Now it turns out geochemists, geophysicists, and planetary scientists as well—and a lot of them have never had a course in classical geology. To rectify this situation, Robert P. Sharp, professor of geology, introduced an informal exercise that has now become a full-fledged and thriving course.

Ge 136 (Regional Field Geology of Southwestern United States) never meets in a classroom. Given once a year, usually in the spring term, it consists of at least nine days of weekend field trips to various areas of the Southwest. Since nine or ten different trips are offered in different combinations, some students take the course three times.

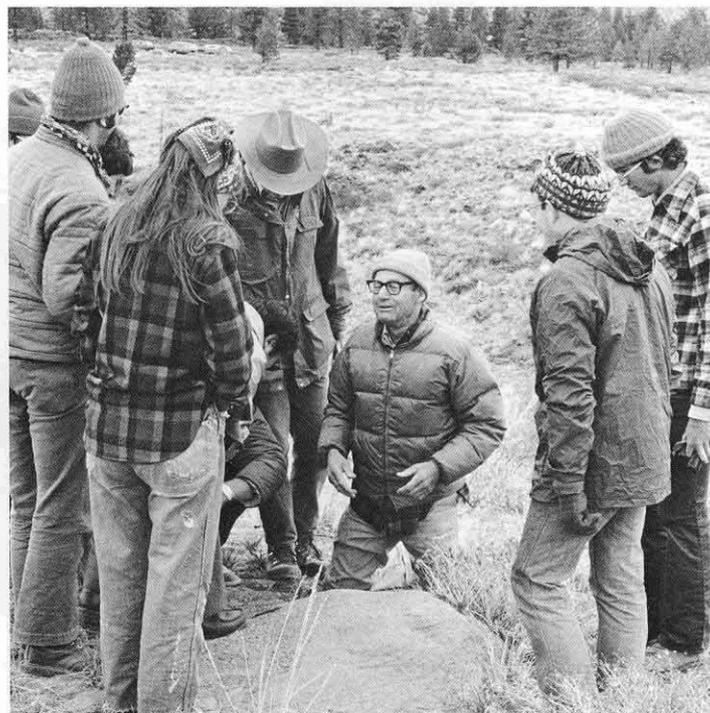
It's not all a lark either. Each student has to become an authority on part of the area the group will be exploring, or on special features to be found there, such as volcanics or earthquake faults.

On these pages, some highlights from this year's trip along the east face of the Sierra.

The view from the top of Sherwin Grade—site of one of the older glaciations of the Sierra Nevada, where Rock Creek Glacier spread out as a bulbous mass. The glacial deposits were later buried by a flow of hot fragmental pumice and hot volcanic rocks.



Sherwin Till, a glacial deposit, is 700,000 years old. Because of its age, normally hard granitic rocks in the till are disintegrated and crumble when they are touched.



Sharp worships a favorite rock on Casa Diablo Till, near Mammoth. There is one lava flow on top of this till, another below it. This boulder got baked in the till so that remnants of sands and gravel adhered to it.

Students only work from sunup to sundown, but the instructor has to keep plugging away into the night to stay ahead of them.

