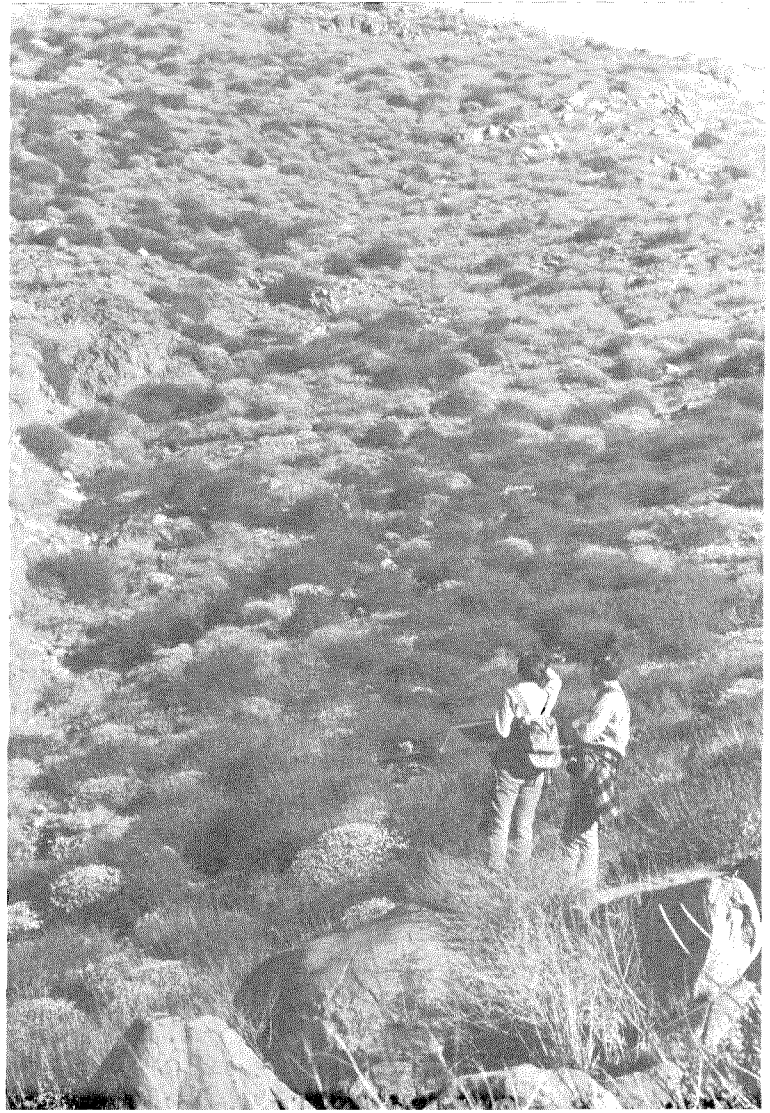# IN THE FIELD

Field investigations—the kind that hardy geologists have been making for years, armed with little more than a blank map, a compass, and a hammer—remain a major part of the work of most of the Caltech geology faculty, no matter how sophisticated their laboratories have become. And students in the division get a healthy dose of field work in the course of their education—generally two full-year courses plus a six- or eight-week summer expedition just to get a BS degree.

These pictures of the Ge 121 *advanced field geology* class, taken on one of the nicest January 31sts in memory, show that not only does earth abide, but that geologists in the field haven't changed too much either. The group includes graduate students Jo Laird, Robert Powell, and David Tiffany; seniors Mark Boulé and Richard Doyle; Hugh Taylor, professor of geology; and graduate teaching assistant Bruce Carter. This particular field trip was number three in a series of eight being made to map the western Jurupa Mountains, a region consisting largely of metamorphic and igneous rocks in Riverside County, about an hour's ride from the campus.

Not too long ago the geologist, like the poet and philosopher, could produce profound insights with almost no overhead expense. A rocky hillside is still his greatest—and cheapest—research tool, but the techniques of other disciplines have refined his observational abilities in the last few decades.

In his laboratory today he is scarcely distinguishable from a chemist or physicist. The rooms are crammed with glassware, blinking lights, and computer printouts for all sorts of elaborate analyses. But for the most part that equipment serves one basic purpose—to help him better understand the origin and history of a sequence of rocks observed in the field. The geologist then combines histories of individual rocks into histories of regions, regions into land masses, and when he examines histories of land masses, gets some clue about what has happened to make the earth the way it is.