



*Kyle Roberts, Haijiang Zhang and Karl Rittger installing the last real-time telemetered seismic station for Cliff Thurber's seismic field project near Parkfield, CA. Photo by Neal Lord.*

with a study of the timescales of arg magmatic processes through a study focused on Puyehue volcano in the southern Andes of Chile. Finally, so that I can continue to maintain these diverse activities in the lab, **Kyle Min** (PhD UC-Berkeley) was offered the new Assistant Scientist position and will become the lab's manager in 2002.

#### ❖ Clifford Thurber

I had a busy and exciting year in 2001. Our seismic field project around Parkfield, CA continued and expanded this year. Over the summer, we enlarged our real-time telemetered seismic array from 15 to 59 stations, all within about 10 km of the San Andreas fault zone drilling site. Drilling for a 2-km pilot hole will begin in late spring 2002, to be followed by a series of active-source seismic experiments aimed at setting the stage for drilling the main fault-crossing hole ("SAFOD") as part of the Earthscope project. In the meantime, we are refining our 3-D model of the seismic velocity structure around the drill site, and are steadily improving the accuracy with which we can determine the location of a cluster of small earthquakes (magnitude about 2) that are a target of the SAFOD drilling. Lee Powell, grad student Kyle Roberts, and new post-doc Shirley Baher are participating in this project. In the fall, we wrapped up a three-year nuclear explosion monitoring (CTBT) project and immediately started in on a major new CTBT project, involving post-doc Charlotte Rowe, grad student Haijiang Zhang, and Assistant Scientist Bill Lutter. My volcano seismology research continued along two fronts. The initial phase of our study of the deep structure of Kilauea volcano's East Rift Zone is complete, with one paper published in GRL and an MS thesis completed by Megan Mandernach this year. Work on Kilauea velocity and attenuation tomography is being continued by grad student Samantha Hansen. The other volcano seismology project, on high-precision location of volcanic earthquakes, is being

led by Charlotte Rowe. She has produced dramatic improvements in the determination of the locations of numerous earthquake clusters, each with dozens to hundreds of similar events, at the Soufriere Hills volcano, Montserrat, and is completing similar work for Redoubt volcano, Alaska, and Mount Pinatubo, the Philippines. Charlotte and I also obtained a new NSF grant to work on high-precision earthquake location in the New Zealand and Japan subduction zones. I continued my heavy

involvement in managing the IRIS Consortium this year, including my membership on the executive committee, participation on the instrumentation subcommittee, and as a regular member of the IRIS Board of Directors. I also finished my third year as an associate editor for *JGR-Solid Earth*, and was just reappointed for another three-year term. All this resulted in quite a bit of travel for me this year, including three IRIS executive committee meetings and the annual IRIS workshop, two Department of Defense CTBT meetings, two lengthy trips to Parkfield, and a trip to the fall AGU meeting where my research group had six presentations. Another major highlight of the year was a successful faculty search in seismology, which brought Richard Allen to Madison in January 2002.

#### ❖ Basil Tikoff

It has been a busy year for structural geology. The highlight was probably the combined sedimentology/structural geology fieldtrip to the Pyrenees last spring. With Toni Simo's expert guidance (both geological and gastronomical), we saw some great geology and enjoyed ourselves.

Research keeps going along. **Cheryl Waters** (PhD candidate) put in another field season in central Australia, looking at deformation of lower-crustal granulites. The project on a mid-crustal plate boundary exposed in western Idaho, worked on by **Scott Giorgis** (PhD candidate), is also going well. I can't say I particularly enjoyed, at the time, carrying all the 40 lb. water containers and the rock drills up the mountains of Idaho with Scott. However, writing this in Madison in winter (Winter? Is this really winter?), I want to head back to Idaho. I hear that they at least have snow there.

**Eric Horsman** decided to work on intrusion of laccoliths in the Henry Mountains, Utah, for his Master's dissertation. I believe that the Henry Mountains were the last mountain range named in the lower 48. Regardless,