

My Hellweg monitors world's earthquakes

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A conference room on the second floor of McCone Hall at UC Berkeley sits an old-style seismograph. A mechanical pencil, ticking away as it marks tremors on a roll of white paper. Across the hall sits Peggy Hellweg, operations manager of the Berkeley Seismological Laboratory.

We collect and provide data, report on earthquakes in Northern California, and train new seismologists and do research with the data that we collect. Our funding comes jointly from the federal government and the state, with some from the university.

Background I grew up in Lafayette. I studied physics at UC San Diego. I needed a part-time job and found a group of seismologists who needed a programmer. I was learning the science behind the program and that was seismology.

Comparison The difference between geophysics, of which seismology is a part, and regular physics, is that seismologists don't have a lab to do experiments in. We get what the Earth gives us.

Equipment That thing across the hall (seismograph) is only for show now. For the earthquakes we deal with in measuring, we'd need a roll of paper that is 3 miles across. Three-mile-across paper is not available. We use computers now. I can display it on my screen.

Location What you see on the paper and on the screen is data that comes from a station that was built in a tunnel in the Berkeley hills. It goes down to a data center then comes back up analog to the paper and a program on the screen. With the equipment that we have, we can measure earthquakes on the San Andreas Fault. But we can also measure a magnitude 4.5 earthquake in Japan or Tonga or India.

History At Memorial Stadium, we had a steel bore hole 400 feet down with wires that came up and connected to a logger box. Our recording equipment was in the north tunnel. It's basically inside the Hayward Tunnel. When they retrofit the stadium, they lost the bore hole. Our stuff was unrecoverable. So now they've drilled a new hole at the stadium, just up the stairs from the main entrance. It's probably 500 feet down and they'll find it.

Recent Event Nobody wears a pager anymore, but I do. Today, at 3:37 in the afternoon my pager went off for a magnitude 3.8. I was in a staff meeting when it went off. I said, "It's offshore of Eureka. It's not a big deal."

Significance Two years ago, in October, there were a couple of earthquakes that happened right here