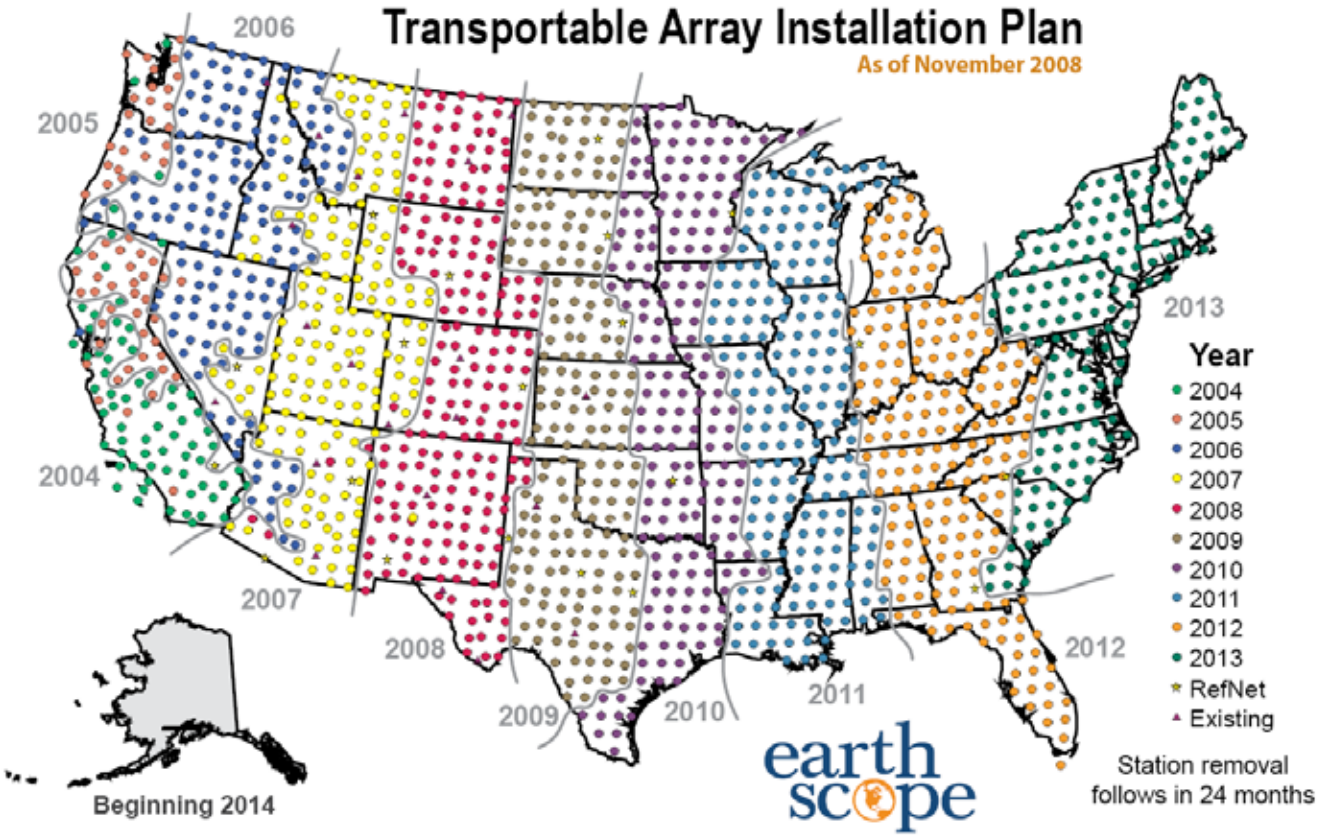
Salesmen for SCIENCE

By Carol Trono

When Geology & Geophysics graduate students Shari Hilding-Kronforst and Ben Kolkmeier responded to a summer job posting in their department, they thought it would be a flexible, well-paying job that would allow them to travel through interesting areas of Texas while being part of the prestigious National Science Foundation EarthScope project. What they didn't realize, however, is that they would also learn how to be door-to-door salesmen.



Hilding-Kronforst and Kolkmeier spent the summer of 2008 doing reconnaissance work for the USArray, a nationwide effort to collect accurate seismic data for the entire continental U.S. That reconnaissance work, however, demanded that Kolkmeier, a master's student, and Hilding-Kronforst, a doctoral student, develop and use skills seldom taught in lectures or labs.

They learned how to knock on the doors of strangers and convince them to allow a national science entity to bury a 42-inch diameter tank with a concrete base, seven feet into the ground on the resident's property, and then erect an eight foot mast with solar panels, a GPS antenna and a radio antenna, with both being left in place for at least two years while the property owner gets no reimbursement whatsoever.

Their experience left Kolkmeier and Hilding-Kronforst greatly indebted to the vast Aggie network. According to Geophysics Associate Professor David Sparks who supervised the team, "They found Aggies all over and when Shari and Ben said they were from Texas A&M, it was like 'Come on in!'"

Sparks, Hilding-Kronforst and Kolkmeier were one of six teams from Texas universities participating in the implementation of the transportable array element of the USArray project under EarthScope. Other teams were from Baylor, UT, Texas Tech, and Lamar.

The Transportable Array is a 15-year program that is placing a network of seismographs across the U.S. The seismographs record the energy released by Earth's movements and are sensitive enough to detect everything from cars on a nearby highway to earthquakes around the world.

By analyzing the data from this dense grid of seismometers, scientists can learn about Earth structure and dynamics and the physical processes controlling earthquakes and volcanoes.

"The ultimate goal of the USArray is to look at the structure of the crust and upper mantle beneath the continental U.S. deeper and in more detail and with more resolution than we have been able to do in the past," said Sparks.

The Transportable Array is placing 400 broadband seismometers across the U.S. and Alaska in a grid pattern, with each occupying a site for about two years. Teams of students are enlisted to evaluate potential sites and lay the groundwork with property owners so that EarthScope technicians can then complete the installation.

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An EarthScope technician pours concrete for the base of the tank that encases the USArray seismometers.

TO LEARN MORE ABOUT THE WORK OF DR. SPARKS, VISIT HIS FACULTY PROFILE AT GEOWEB.TAMU.EDU/PROFILE/DSPARKS.

The first seismometers were installed in August 2007 along the West Coast. The array is being moved in leapfrog fashion from west to east and will complete an additional three full deployments to cover the conterminous U.S. with over 1600 observation points. Then they'll be moved to Alaska.

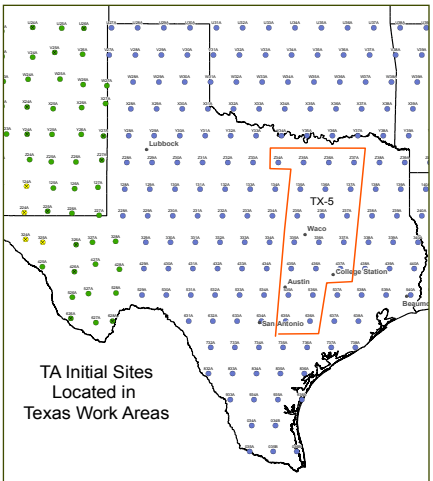
Texas A&M's team worked hard to identify 20 of those 1600 observation points.

After getting a property owner's permission to go on their land, Hilding-Kronforst and Kolkmeier tested for adequate cell phone signal strength to ensure the seismometer could relay the data it collects. They then made sure the site met other criteria, documented the location with photographs and GPS coordinates, and left residents with information on the project. An EarthScope representative then followed up to make sure the site was appropriate and to finalize the agreement.

With help from the Aggie network and the interpersonal communication skills they developed, Hilding-Kronforst and Kolkmeier were the first team of students in Texas to pinpoint suitable sites and submit reports for their 20 assigned stations.

Although the training they attended recommended a different approach, Hilding-Kronforst and Kolkmeier worked out their own system over the summer. "We would look at a house to see if they had any A&M or other university flags or window stickers or things in the yard," Kolkmeier said.

"That saved us quite a few times," Hilding-Kronforst added. "We could knock on so many doors at some of these sites and not find anybody willing to let us do this, but if we found



Area covered by Hilding-Kronforst and Kolkmeier to locate sites for seismometers.

Aggies, they were certain to help, and if their property wasn't suitable, they would tell us about 'Joe' over here or somebody else over there."

"Teachers were also really good about helping us," added Kolkmeier.

Hilding-Kronforst and Kolkmeier both feel they benefitted from the experience. Kolkmeier said the project definitely influenced him personally. "I'm not a good salesperson, and we were basically being salesmen for science. I had a lot of interviews for internships after that, and I know I was more comfortable because of the skills I'd developed over the summer."

Hilding-Kronforst, who plans to continue teaching after completing her Ph.D., said that her experience helped her see the need for universities to do more community outreach so that people in rural areas know more about the research being done at the universities.

"We need to do more to help people learn how the science interacts with and affects their lives," Hilding-Kronforst said.