Facts about RISTRA

• ***What is RISTRA?*** RISTRA is a scientific program funded primarily by the U.S. National Science Foundation and the Institute for Geophysics and Planetary Physics at Los Alamos National Laboratory to study the earth's mantle (below about 25 miles in depth) and crust (above about 25 miles in depth) across the southwestern United States. **RISTRA will produce a better understanding of past and present-day geologic processes responsible for valleys, plateaus, mountains, volcanoes, earthquakes, and other features of this remarkable part of the United States.**

• ***How does RISTRA work?*** RISTRA will consist of about 60 sensitive earthquake recorders deployed in a 700-mile-long line for about 1 year. These instruments simply record ground motion from naturally occurring earthquakes around the world; **the experiment does not involve explosions, vibrator trucks, or any other artificial sources of seismic energy.** The orientation of the recorders is southeast-to-northwest to line up with highly active earthquake regions in South America and Alaska. As earthquake signals travel through the earth, they are sped up, delayed, or otherwise altered by its geological variations. Analysis of these effects enables us to recognize hotter and colder regions and other features underneath the recorders down to depths of several hundred miles (about 1/10 of the way to the center of the earth) using a procedure that is similar to a medical CAT scan.

• ***What does an earthquake recorder consist of?*** **Earthquake recorders are small, solar-powered units that require only occasional maintenance.** Each recorder consists of a ground motion sensor which is installed in an approximately 3 by 3 by 3 foot hole with a concrete pad at the bottom, and some small computer recording equipment and solar panels that sit above the ground. In areas where stock are present we plan to erect a small fence to protect the equipment. The recorders are automatic and only require a brief visit every 1 - 2 months by RISTRA staff to retrieve the earthquake data. The instrumentation is very useful for earthquake seismologists, but has no commercial value otherwise. We expect to begin recording around July, 1999, and to have all equipment removed by the end of October, 2000.

• ***What responsibilities do I assume if I choose to host an earthquake recorder?*** Although we hope that the interest of the local landowner or manager in this project will enhance security and reporting of any obvious physical problems with the recorders, RISTRA staff will take ultimate responsibility for the safety of all instrumentation. **If a recorder should be damaged or stolen during the experiment, there is absolutely no liability to the landowner.** Upon completion of the experiment RISTRA staff will remove all equipment and the ground will be returned to its original contours. If you wish, we will be happy to gratefully acknowledge your contribution to science when we report our results to the public and to the scientific community.