



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

<b>Your Name</b> (List all student names if multiple authors.) <b>Anjali Tripathi</b>	<b>Science Fair Use Only</b>  <h1 style="margin: 0;">J0527</h1>
<b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) <b>Ring Around the Aerial Stereo Photographs: A Project on Paleoseismology</b>	<b>Division</b> <input checked="" type="checkbox"/> <b>Junior (6-8)</b> <input type="checkbox"/> <b>Senior (9-12)</b>
<b>Preferred Category</b> (See page 5 for descriptions.) <b>5 - Earth Sciences/ Planetary Sciences/ Physical Environments</b>	
<b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p><b>Goal:</b> The goal was to find out if information about past earthquakes can be determined by looking at aerial stereo photographs and tree rings. My hypothesis was that information such as magnitude, year, and area of a past earthquake could be derived by looking at aerial stereo photographs and tree rings.</p> <p><b>Materials and Methods:</b> Thirteen tree segments were cut and obtained from the Calabasas, Northridge, and Santa Cruz areas. All segments were sanded, baked, and varnished to see the rings better. Aerial stereo photographs were obtained by finding the street address of the epicenters of the 1971 Sylmar and 1994 Northridge earthquakes from the California State University at Northridge Map Library. Photographs were scanned and printed so they could be used out of the library. The photos were from 1952 and 1990 for the Sylmar area and from 1960 for the Northridge area. Photographs were observed using a stereoscope, a tool for viewing stereo photos, to see landform and elevation changes.</p> <p><b>Results:</b> By observing and counting backwards on the tree segments from Calabasas and Santa Cruz, dark rings were identified. There was no difference in the aerial stereo photographs in the Sylmar area from before and after the Sylmar earthquake because the area was mountainous in both pictures. The photo from the Northridge area showed the area was relatively flat in 1960.</p> <p><b>Conclusion:</b> The dark ring on the tree segments from Calabasas resulted from the 1994 Northridge earthquake, and the dark ring from the Santa Cruz tree segments resulted from the 1989 San Francisco earthquake. The Sylmar pictures did not show a difference because there was not that big a change in landforms. However, the mountains in the Sylmar area indicate seismological activity. Information such as year of earthquake can be determined by looking at tree segments.</p>	
<b>Summary Statement</b> (In one sentence, state what your project is about.) The project is about using aerial stereo photographs and tree rings to determine past earthquakes.	
<b>Help Received in Doing Project</b> (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Parents proofread; teacher supervised viewing photos and helped with summary; mentors gave ideas	