

# Inverse Dislocation Modeling of Vertical and Horizontal Surface Deformation in Western Oregon

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**NEHRP Award:** 04HQGR0185  
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## Annual Project Summary

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### **Investigations undertaken**

This project began on September 15, 2004. No work has been completed during the initial two weeks.

### **Non-technical summary**

I propose to model active vertical and horizontal deformation in western in an effort to better understand the earthquake potential for that region. Many researchers have modeled either horizontal or vertical data individually, but very few have combined the data in a single model. I recently developed a procedure for this purpose and applied the technique to deformation in western Washington. I plan to enhance the procedure with added capabilities and apply the new technique to data from western Oregon.

This study is intended to increase our understanding of the seismic hazards in the Pacific Northwest. A thorough understanding of earthquake potential in this region will benefit the public by allowing policy makers, industry, and the general public to mitigate and prepare for the hazards associated with life threatening natural events. The procedures developed during this project will be made available to other researchers as a tool for analyzing vertical and horizontal deformation at subduction zones globally.