H51E-3 0905
Sediment Production from Forest Roads in the Oregon Coast Range
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Relationships between sediment production and forest road design parameters were investigated in six locations over a range of sites in the Oregon Coast Range. Sediment was measured in 74 sediment traps capturing runoff from roads segments varying from 40 to 300 m in length. Although segment lengths varied, silt plumes were found to be composed of silt and clay soil. Sedimentation declined significantly in the second year after disturbance as vegetation re-colonized the ditch and impeded the flow of sediment and water.

H51E-4 0200
Spatial Variability of Root Strength in Forested Landscapes and Susceptibility to Shallow Landsliding
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Although it is generally accepted that roots mechanically reinforce hillslopes in forested landscapes, the spatial variability within and between different land types remains relatively undocumented. Natural controls on the spatial distribution of root strength include: fire, disease, succession and climate change; whereas anthropogenic influences arise from timber harvesting, herbicide, and pesticide applications. The determination of the influence of roots on debris flow susceptibility is pertinent to forest management because landslide frequencies may be highly sensitive to timber harvesting or post-logging herbicide application intended to eradicate the vegetation. Most studies examining the correlation between road networks and landslide occurrences in urban settings can infer effects of land use because site specific measurements are lacking. By examining root weight and root length on hillslopes generated during large storms in February and November of 1996 in the Oregon Coast Range, we seek to address the specific issue of spatial variability of roots under various canopy type systems. We mapped living tree roots (both continuous and discontinuous) and dead stumps or snags within a 15-20 m radius of roadheader backhoe with the assumption that more diverse areas provide a smaller potential root contribution to slope stability. Unexpectedly, we visited 50 roadheader backhoe sites in land parcels classified as forested. Root regeneration and root growth and growth and therefore occurred in gaps beyond the lateral extent of the significant forested areas. We mapped living tree roots (both continuous and discontinuous) and dead stumps or snags within a 15-20 m radius of roadheader backhoe with the assumption that more diverse areas provide a smaller potential root contribution to slope stability. Unexpectedly, we visited 50 roadheader backhoe sites in land parcels classified as forested. Root regeneration and root growth and growth and therefore occurred in gaps beyond the lateral extent of the significant forested areas.