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(<http://and.lternet.edu/lter/pubs/pdf/pub1518.pdf> ) ***INFLUENCE OF TIMBER HARVEST ON RAIN-ON-SNOW RUNOFF: A MECHANISM FOR CUMULATIVE WATERSHED EFFECT***

***ECOSYSTEMS ARE COMPOSED OF BIOLOGICAL AND PHYSICAL COMPONENTS INCLUDING WATERSHEDS, SOILS, AIRSHEDS, PLANTS, AND TERRESTRIAL AND AQUATIC ANIMAL SPECIES. WITHIN A RANGE OF VARIATION, THE STRUCTURE AND FUNCTION OF THESE COMPONENTS MAINTAIN ECOSYSTEM HEALTH, DIVERSITY, PRODUCTIVITY, AND RESILIENCY FOLLOWING DISTURBANCE:***

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Results of updating and reanalyzing streamflow data from studies in two experimental watersheds in western Oregon suggest that clearcut logging has altered snow accumulation and melt enough to have increased the size of peak flows caused by snowmelt during rainfall. In a 96-ha clearcut watershed in the transient snow zone, peak flows with return periods of roughly 3–8 years were higher than predicted by prelogging data. In a similarly clearcut 10-ha watershed, sizes of peak flows caused by melting of relatively deep snowpacks during rainfall were also higher after logging. Higher peak flows indicate a higher rate of water delivery to soils, which, in turn, suggests increased potential for both hillslope and channel erosion.

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**FOR FIRE MANAGEMENT CONCEPTS**: Russell T. Graham, Sarah McCaffrey, Theresa B. Jain

<http://www.fs.fed.us/research/people/profile.php?alias=rtgraham>

Water, wildlife, fiber, sense-of-place, home sites, and many other forest values are important to US and World citizens. Wildfire is a common threat to both property and life and costs billions of dollars each year. The results and impacts of this line of research will have local to international relevance in providing knowledge to inform management decisions and policy actions that influence forest sustainability and the inherent values forests contain. The establishment and development of forests are long-term propositions and providing suggestions as to how they will develop along with disclosing the risks and uncertainties of their development is valuable to both present and future generations.