RESEARCH ABSTRACT

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Study Title: Effects of eruptions and post-eruptive phenomena on caves and pseudokarst of Mount St. Helens

Key Words:	terrestrial	inorganic	geology	caves	pseudokarst
lahar	mudflow	runoff	glaciers	ablation	recovery
caves	physical	geography	volcanic ash	ashfall zone	

Abstract: Beginning June 1980 systematic observations and measurements are documenting the effects of the eruption and post-eruptive events on the caves and pseudokarst of Mount St. Helens. Caves of the Cave Basalt Lava Flow were essentially free of physical impacts by the eruptions, but the biota of some was severely impacted by ashfall. Depending on the local physical geography, some of the caves were severely impacted by post-eruption mudflows.

Topography in the Spirit Lake pseudokarst has been evolving very rapidly. The development and destruction of one cave in pyroclastic material has been documented over a two year period.

Glacier pseudokarst has been the subject of one high elevation study. Surface, subsurface, and aerial studies are all utilized.

Type of Measurement(s): Periodic measurements of aggradation and degradation in appropriate caves, selective remapping of impacted caves, systematic photo-documentation.

Frequency of Measurement(s): Annually, except in Spirit Lake pseudokarst where access was not possible in 1987. Initially more frequent. Future studies are scheduled for 1995.

Data Storage: Reports and publications filed with National Speleological Society and with Gifford Pinchot National Forest. Photo documentation filed in permanent notebooks, currently in Nashville, Tennessee.

Long-term plans: Data available for collaborative efforts: Frequency of studies tapered off after 1990 on Cave Basalt Lava Flow, and in Spirit Lake pseudokarst. Future studies in these areas are scheduled for 1995.

No further glacier cave studies are planned. Analysis of first decade to be published in Proceedings of 6th International Symposium on Vulcanospeleology and possibly elsewhere.