INCREASING ACCEPTANCE OF GLOBAL CATASTROPHE

By Kurt P. Wise

At 8:32 A.M. on May 18, 1980 an earthquake at Mt. Saint Helens broke the rocks which were supporting a bulge which had been building on the volcano for several weeks. The 500 foot bulge cascaded down the mountain, filling the valley below with a cubic kilometer of pulverized rock. One quarter of the avalanche material pushed the water of Spirit Lake out of its basin and nearly three football fields up the side of the mountains on the far side. The tidal wave stripped soil, trees, and debris off those slopes and back into the new lake basin 250 feet higher in elevation than the pre-eruption lake. The avalanche also uncorked the volcano, releasing pressure on superheated steam inside the mountain and allowing it to explode, releasing the equivalent energy of 2000 megaton bombs. In six minutes the explosion cloud, at temperatures near 500 degrees centigrade and moving at hurricane force, leveled 156 square miles of forest to the North of the mountain. The needles, twigs and smaller branches were vaporized, volcanic ash was driven inches into the trunks, and the trunks were uprooted or broken off. Mudflows from the mountain, formed by melted snow and ice combining with volcanic ash, poured into the Toutle River valley to the north of the mountain choking the valley in places with hundreds of feet of mud and wrecking havoc for scores of miles downstream. Mt. Saint Helens was a rather small volcano as far as volcanoes go, yet it demonstrated some of what a geologic catastrophe can do.

In the days, months and years after the eruption, geologists watched many processes occur which were formerly thought to require great amounts of time. Fine lamination, long thought to indicate slow deposition, was made in hours, minutes, and even seconds in the midst of eruption, mudflow, and ash fall activity. Substantial erosion, also thought to be an indication of long periods of time was observed to occur rapidly. The Little Grand Canyon and Engineer’s Canyon were cut one hundred feet deep through soft sediments in a few hours in a single mudflow (in June of 1982). Glacial ice chunks buried in and vaporized by hot avalanche material, were replaced by collapsing sediment. The collapsing sediment left valley and rill topography 100 feet high–reminiscent of badlands topography–in the period of less than a week. Erosion between 1980 and 1991–probably primarily during only a few mudflows–eroded hundreds of feet through solid basalt in Looit and Step Canyons. A delta in excess of 100 feet long was developed out into Spirit Lake in less than three years, and an even larger delta has been developing since 1983 into Coldwater Lake. In a period of less than nine years in the midst of Engineer’s Canyon, complete swamp and hot-water spring ecosystems have formed. All these are things long thought to require very much longer time to form.

Also after Mt. Saint Helens’ eruption the estimated one million logs floating atop Spirit Lake began to abrade against one another and leave a layer of bark-dominated peat at the bottom of Spirit Lake up to three feet thick (reminiscent of the type of peat which must accumulate to explain coal). Many of these same logs have become waterlogged and sunk to the bottom of the lake–some in horizontal positions, others vertical. Different species have fallen out at different rates, leaving the appearance in the lake sediments of some sort of ecological succession. As the vertical logs on the bottom of the lake are buried it creates a buried "forest" of vertical and horizontal trees. That and the frequency of vertical logs in the bottom of the lake (comparable to the frequency of standing trees in forests around the lake) would simulate a buried standing forest of trees. The buried forests at Yellowstone National Park have long been considered to be powerful evidence of tens to hundreds of thousands of years of buried forests. The long list of similarities between the "buried forests" at Mt. Saint Helens and Yellowstone suggests that perhaps the latter forests were formed in decades not millennia.

The study of geologic catastrophe has repeatedly taught us that virtually every geologic feature about us CAN be formed quickly. Laboratory experiments confirm field observations that very fine lamination can occur under conditions of very rapid deposition. Floods, both ancient (like the Bonneville Flood) and modern have taught us that dozens to hundreds of feet of sediment and even solid rock can be eroded and then re-deposited in hours to days. Observations of canyons over time are even beginning to suggest that canyons erode deeper only during floods. If this is verified it would mean that every canyon is evidence of geologic catastrophe. We have also learned that when dams fail, they fail catastrophically. Once water begins to leak through a dam it is usually only a matter of hours before the water, forced through under pressure, has produced gaping caverns in the dam, followed by collapse of a notch in the dam, followed in turn by the complete failure of the dam. In 1983, water erosion in a tunnel of the Glen Canyon Dam cut dozens of feet through pre-stressed concrete and then solid sandstone in the matter of only dozens of minutes.

What we have learned about geologic catastrophes combined with evidence in the rocks for those catastrophes have forced rather significant changes in geologic interpretation in this century. In the first half of the century a vast percentage of the rock record was interpreted to have been formed very slowly. Due in large part to valiant struggles by individual geologists–such as the half-century struggle of J Harlan Bretz from the 1920's on–neocatastrophism has become popular. Neocatastrophists interpret individual rock layers as due to distinct local catastrophes. Beginning in 1980 with the dinosaur/asteroid controversy, it has more recently become popular for geologists to consider not just local, but global catastrophes to account for the geologic evidence they see. One can be assured that for a community to have made such an incredible shift–in spite of the strong association which exists between catastrophism and creationism–there must be profound evidence for catastrophe throughout the geologic column.

FOR MORE INFORMATION**:**

Ager, Derek V., 1973, *The Nature of the Stratigraphic Record*, MacMillan, London [an early argument for neocatastrophism; the book would go through two other editions, the third one published in 1993 by Wiley of New York]

Allen, John Eliot, Marjorie Burns, and Sam C. Sargent, 1986, *Cataclysms on the Columbia: A Layman's Guide to the Features Produced by the Catastrophic Bretz Floods in the Pacific Northwest*, Timber Press, Portland, OR, 211 p.

Austin, Steven A., ca. 1993, *Mount St. Helens: Explosive Evidence for Catastrophe* [videocassette], Institute for Creation Research, El Cajon, CA, 58 min.