



CONTENTS

Introduction.....	8
Mount St. Helens Erupts.....	18
Total Devastation	38
Geologic Deposits	48
Landforms.....	68
Deposits in Spirit Lake	78
Rapid Fossilization	90
Rapid Revegetation	104
Evidences for Catastrophism at Mount St. Helens	110
A Greater Significance	118



On May 18, 1980, the volcanic eruption of Mount St. Helens shocked the world with its display of unbridled explosive power. The eruption that day fundamentally challenged our way of thinking about geologic events, especially events of the past.

In contrast to most volcanic eruptions, Mount St. Helens was well studied. It had been threatening to erupt for decades and, for six weeks prior to the main eruption, it was obviously building up for a major episode. Geologists from many countries gathered at Mount St. Helens to witness the eruption and the processes it spawned. Direct observation, aerial photos, satellite images, seismographs, laser-survey devices, and even radar readouts allowed geologists to piece together, in extraordinary detail, what happened that day at the volcano.

Of great interest was the realization that the results of the Mount St. Helens eruption that *were* observed were similar to results of past processes that were *not* observed. No geologist can go back in time to observe the past, but we can observe present processes. By comparing the results of the present processes with those of past processes, we can come to some conclusions about the nature of those unknown events of the past.

Ever since the late 1700s, geologists have been accustomed to thinking about the past in terms of uniformity of processes and process rates. Their basic assumption is that things in the past occurred much the same as they occur in the present. All geologists are taught to think that "the present is the key to the past" — that only those things which are possible today have gone on in the past and that present processes, operating at essentially their present rates, scales and intensities, have accounted for all that we observe.

However, during the decade before the 1980 eruption, geologists began to express their dissatisfaction

PRE-ERUPTION BEAUTY

Mount St. Helens rightly deserved its pre-eruption reputation as a sportsman's paradise with beautiful Spirit Lake on its north flank teeming with fish and fowl. Lush timberlands surrounded it on all sides, and

a permanent ice cap displayed its frozen wonders all year. Considered the jewel of the Northwest, the mountain beckoned climbers and campers. Despite its beauty, geologists knew that it was alive and menacing.



with strict uniformitarian thinking. They had noticed in the geologic record that events of the past produced rock units, fossil beds, and erosional remnants far different from the kinds

very different from the present. These scientists believed that there had been an episode of supernatural creation during the six days of the creation week mentioned in Genesis 1.



Lava fountain of the Pu'u'Ō'o cinder & spatter cone on Kilauea Volcano Hawaii (Photo by J.D. Griggs)

of things produced today. Geologists also began to entertain the notion that episodic catastrophes had done more to shape the earth than did long periods of uniformity.

Leading the way in this revolution in geologic thinking were biblical catastrophists, those who believed that the past was at times

Present processes are not creative processes and thus those creation events were accomplished by different, non-uniform processes. Likewise, not long after creation, the world had been restructured by a global cataclysm in the days of Noah. Floods today achieve much geologic work, but this dynamic, world-wide hydraulic and tectonic event accomplished unimaginable amounts of geologic work in a short period of time. This work included continental tectonics, area-wide volcanism, extremely large hurricanes, and similar events. It involved large-scale erosion, deposition, and fossilization. In short, that flood would have left its mark all over the globe. No place on planet Earth escaped those great waters.

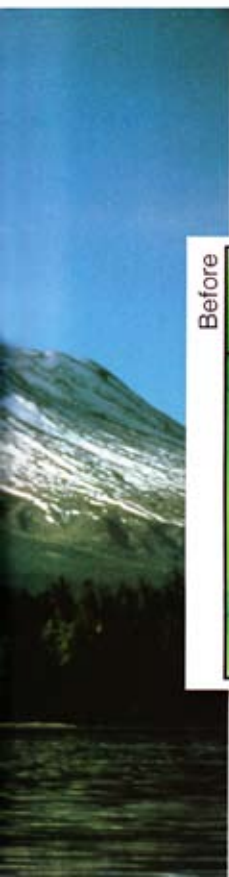
Determining the nature of the past catastrophic processes that occurred in Noah's flood has always been difficult. Such a global cataclysm is so far outside of our

experience that it is hard even to imagine what it would have been like. What would be the end products of devastation on such a massive scale? Thankfully we will never again have to experience such a cataclysm. However, every now and then an event occurs in the present that expands our imagination and helps us

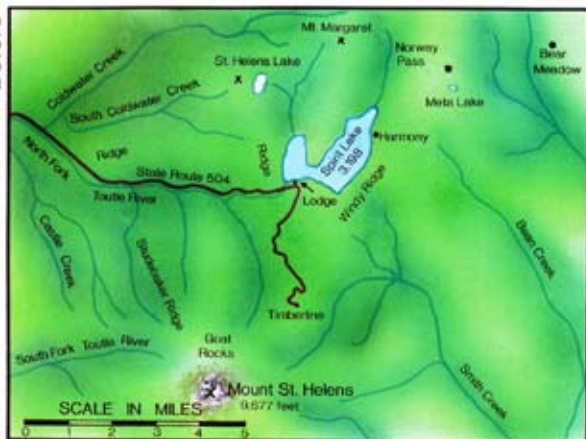
Numerous streams flowed from the mountain slopes fed by abundant rain and snowfall. Campgrounds and lodges provided easy access to its attractions, and visitors flocked to the area even though geologists knew that it was unstable. In anticipation of the suspected eruption, scientific instruments and survey markers had been placed in strategic locations to

observe and record any activity. Never has an eruption and its aftermath been as intensely studied as that of Mount St. Helens on May 18, 1980.

Microearthquakes between March and May 1980 indicated that magma was being injected from six-mile depths into the north flank of the mountain. On the north slope, a prominent 400-foot-high bulge (120 meters) developed by the middle of May 1980 from the magma injected beneath. Geologists grew very concerned about the water pressure within the magma. Would the eruption that followed be a steam explosion driven by 1700° F (900° C) water from the magma? Soon water pressure would reach a critical threshold, but when would effects be seen and what exactly would happen? Scientists gathered from around the world to learn all they could from the pending eruption. They were not disappointed.



Before



Before (May 17, 1980)

Mount St. Helens had a conical form with the swelling dome of rocks (Goat Rocks) on its north slope. Spirit Lake drained westward into the North Fork of the Toutle River which had a well integrated drainage pattern north of the volcano. Coldwater Creek and Castle Creek had no lakes.

In the early morning hours of May 18, 1980, the pristine scenery around Washington's Mount St. Helens was shattered by a powerful explosion that devastated its north slope. The eruption of a landmark mountain had begun.

In the aftermath, amid the rivers of mud, blankets of ash, and eerie quiet, scientists made a startling discovery: "nature" was bringing life out of death, re-claiming from the destruction a teeming colony of plant and animal life. Most amazing of all, the geological upheavals had re-created the processes of old that had carved out such marvels as the Grand Canyon.

Today, the site stands as a testament to the power of God, who upholds all of creation. In His infinite wisdom, He has shown the modern science of geology that the earth is much, much younger than many suspected.



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ISBN 0-89051-400-3



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