

Mount st. helens case study essay sample



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Mt St. Helens, one of the 13 active volcanoes around the world (which is one of the most dangerous volcanoes around us). Mt St. Helens is located in Washington, the Pinochet National Forest Park, its spirit lake had attracted massive tourist which made a huge amount of profit for the tours company.

The last eruption before the previous one was at 1857 which brought some damage but not as much as the one that took place at 1980.

20th March 1980, a big earthquake occurred. The geologist around the volcano found something was wrong, the volcano was back again. The earthquake occurred because the magma is in a great pressure, full of energy and in a high temperature which was forced to be released.

At 31st March, emergency was declared, people who are living 20 square mile were forced to be evacuated, but one man, who's been seen as a hero didn't want to leave, the reason is that he's spent his life time to live there and he was not going to leave and of course he died at the end; his name is Harry Truman.

At 18th May 1980 8: 32am, the Mt St. Helens couldn't hold on any more; it erupted. It was not a simple eruption, the north side of the volcano grew 300 feet longer, because there was a plug (or lid) which was a harden volcanic rock been left from the last eruption stopped the magma coming out from the top of the volcano, but the energy had to be released; The eruption didn't go vertically, it went horizontally. The critical part comes, what will happen if a volcano erupts horizontally? It is going to bring far more damage than the damage that the lavas can bring; yes, the nightmare; Nuee Ardente.

The whole thing actually happened like this:

8: 32am 32sec: the biggest earthquake they've had around the volcano occurred

8: 32am 40sec: eruption happened, the bulge was ripped off, and the magma is freed. The eruption didn't happen only horizontally, also vertically (the bulge was freed); which made a great blast, the north side of the volcano was crushed into small rocks and blasted out, the speed of the Nuee Ardente was originally 100 miles/hour, now the speed is 700 miles/hour because of the blast.

8: 32am 53sec: the Nuee Ardente ruined the nearest forest which was 20 miles away.

8: 34am 5sec: the first victim was made, Harry Truman.

8: 36am 30sec: the explosion ended.

In a few minutes, massive damage was made.

There were some strange thing about the Nuee Ardente, which was when the Nuee Ardente ran in a really fast speed; it made a very loud noise which was not heard by the people near by but the ones who are 60 miles away! Why? It is because the sound was bounced to the atmosphere and bounced back to the ground, and the people near by couldn't hear it was because the air are been sucked in, without the air, no sound shall be heard.

So what made this “ mad” volcano do such a thing? It is the plate. There is actually another plate between the Pacific plate and the North American

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plate; which is the Juan De Fuca Plate. The plate margin happening between the Pacific plate and the Juan De Fuca plate is a constructive margin which means two plates will go away from each other which also means the magma will push up and will actually make convection current. When the Juan De Fuca plate is going to the North American plate, because oceanic plates (Juan De Fuca plate) are always denser than the continental plate (which is the North American plate), the oceanic plate will go down and a trench (subduction zone) will be made, but when the plate goes down, benioff zones will also be made which means earthquake will occur. The plate been push down (which is the crust) will melt due to the temperature. As the plate melt, the magma will be formed, and when the pressure in the mantle increase, magma will be forced to rise to the earth's surface; an eruption occurs.

So after all, what can this thing do to us? On a short term, the vegetation around the volcano will be totally destroyed; in fact, the eruption of St. Helens “ flattened” the trees 6 miles from it, none of the trees were left standing. Also, the rocks been banged can also go really far and destroy buildings, vehicles and lots of things. In a long term, the Nuee Ardente can travel around the world! In two days after the eruption occurred, the cloud reached New York! And in two weeks, the cloud travelled around the world! This thing gives us a tremendous view when sun sets. And also, the vegetation around the volcano will need a long time to recover, even till now, not much was recovered.

For a long time, geologist had spent a long time on trying to predict when will a volcano erupt, but it is almost impossible, because every volcano has

its own way of “ living” which is really hard to either catch or predict.

Nowadays, geologists are using satellites with infra-red to take pictures and the images will be sent back to the University of Hawaii to be analyzed,

And if there is anything wrong, the University will have the authorities to warn the people near by the volcano.

Volcanoes are strange, we can hardly know what it is “ thinking” about, maybe, while you are reading this case study, a volcano might had already erupted.