

A Report on a Natural Hazard HIGH LEVEL 1

A

Mount Pinatubo

Identifications of the hazard and location

The people of Luzon Island in the Philippines live with horrible memories of a huge volcanic eruption of Mount Pinatubo. On June 12, 2001 people could see lots of volcanic ash and dark gas above the volcano and three days later it erupted. This got worse when heavy rain came, all the debris was washed away down the side of the mountain. Everything and every body in the path was destroyed.

Mechanisms causing hazards

Volcanoes happen because of friction between moving plates, that makes the temperature hotter and the rocks expand. Friction and pressure melts the two plates together. Magma flows in the cracks in the rocks and when the magma reaches the surface it makes a volcano. The magma which solidified before it had a chance to reach the surface makes a plug that prevented the volcano erupting for a while. The pressure just kept expanding, it got to be so much that it made a huge explosion and the volcano erupted. This is one of the worst disasters that could happen. The volcano spouts hot lava, ash, rocks, etc.

Impacts of the hazard on local people and their activities

By the time the disaster on Luzon Island was finished, the volcano had many eruptions. The total of people dead was 320 and 20,000 people were displaced. Many people were out of work and had no homes. There were billions of pesos of damage done. The destruction also destroyed 99,200 ha of farmland and 18000 ha forests. Later the volcano started a lot of mudslides, that ruined thousands of homes.

Preparation for possible hazards

Short term – A good idea would be to have some meetings about the issue. The people who live in the area should talk about the awareness and how to prepare for the next one.

Justification – If they did this, they could discuss ideas and resources. This would let them understand how dangerous a volcano is and keep them more aware and alert.

Long term – A long term goal would be to put up signs that tell the people not to climb the mountain or to get too close. You should also build a look out point in a safe area. There should be no building on the volcano and the people who already live there should be able to get help to buy a new house where it's safe.

B

Justification – If the people of Luzon Island can deal with these suggestions, they will not have so many worries about their future. The new house thing could be a little difficult but it could work.

Steps to deal with aftermath

If you do not have a Red Cross centre then you should definitely build one. If a volcano happens again there would be shelter, food, and water and medicine for the victims. You should also call the army so they can help rescue people.

Justification – It is a good idea to set up some kind of shelter system ahead of time for an emergency like this one. If the volcano erupts again, many people will be injured and need to have water and shelter. The army could help with the clean up.

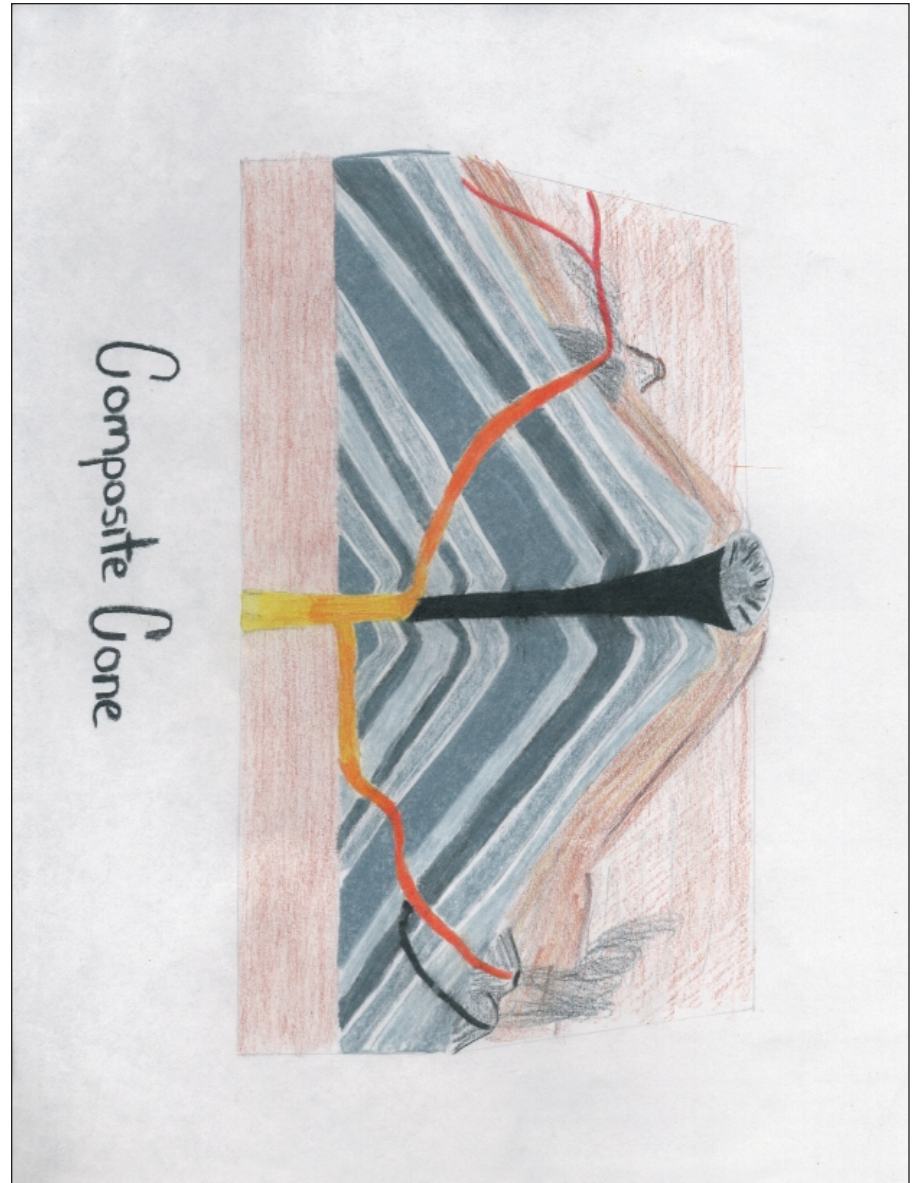
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C

Bibliography

- 1) <http://wr.usgs.gov>
- 2) http://volcano.und.nodak.edu/vwdocs/volc_images/southeast_asia/philippines/pinatubo.html
- 3) magazine article
- 4) internet

D



Teacher's Notes**Knowledge/Understanding**

- The student identifies and describes the mechanisms of change as they apply to volcanoes with some accuracy (e.g., “Volcanoes happen because of friction between moving plates, that makes the temperature hotter and the rocks expand.”). However, the student describes mechanisms that are general in nature and not specifically related to the selected location.

Thinking/Inquiry

- The student provides advice on short-term preparation that is of limited effectiveness. The student states only that “A good idea would be to have some meetings about the issue. The people who live in the area should talk about the awareness and how to prepare for the next one.”
- The student provides advice on long-term preparation that is of limited effectiveness. Although the main piece of advice might be effective in theory (e.g., “There should be no building on the volcano and the people who already live there should be able to get help to buy a new house where its safe.”), it is not useful in the case of Mount Pinatubo, where there have been no dwellings “on the volcano” since 1991.
- The student provides steps for dealing with the aftermath of the disaster that are of limited usefulness. Although one general step is somewhat useful (i.e., “call the army”), the suggestion to establish a Red Cross centre actually pertains to long-term planning.

Communication

- The student writes a report that is limited in clarity and logical organization. Although the student uses appropriate subheadings to organize the report, the vagueness of some of the ideas presented (e.g., in the section on short-term preparation) detracts from overall clarity. Errors in spelling, grammar, and typing also limit the clarity of the report (e.g., “Friction and pressure melts the too plates together”; “The magma which solidified before it had a chance to reach the surface makes a plug that prevented the volcano erupting for a while.”).

- The student uses a voice and language that are appropriate to a limited degree. The student uses appropriate terminology when describing the mechanics of volcanoes but adopts simplistic and informal language that is not appropriate for the intended audience when offering and justifying planning suggestions (e.g. “The new house thing could be a little difficult but it could work.”).
- The student provides a visual that supports and enhances the written information to a limited degree. The visual is an accurate representation of a composite volcano, but, because the student does not explicitly identify Mount Pinatubo as a composite volcano, it does not effectively serve the purpose of enhancing the text.

Application

- The student evaluates the impact of the hazard on the population of Luzon Island with some effectiveness. The student provides details about the effects of the 1991 eruption of Mount Pinatubo (e.g., “the total of people dead was 320 and 20,000 people were displaced”), but does not discuss the possible impact of future eruptions of the volcano.

Comments

This work is representative of a high level-1 performance. The student demonstrates a limited degree of achievement of the expectations in the Thinking/ Inquiry and Communication categories of knowledge and skills. In the Knowledge/ Understanding and Application categories, however, the student demonstrates some degree of achievement of the expectations – i.e., achievement that is more characteristic of level 2.

The result is a report that focuses too much on a single incident and does not sufficiently address the wider implications of volcanic eruptions in the selected region.

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Next Steps

In order to improve his or her performance, the student needs to:

- identify the specific plates involved in the volcanic activity of Mount Pinatubo, and identify the type of volcano that Pinatubo is;
- conduct further research to provide planning suggestions that are more realistic, relevant, and practical;
- adopt a more formal tone, appropriate for the intended audience;
- tie the visual to the written information by referring to it, and to the information it provides, in the text;
- carefully edit the report to eliminate grammatical, spelling, and typographical errors.