

EFFECTS OF VOLCANICITY IN ICELAND

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ABSTRACT

Iceland is greatly known for its volcanic activities as there are several eruptions that have occurred over the years. The country's volcanology is due to Iceland's location on the mid-Atlantic Ridge, which is a divergent tectonic boundary¹. Consequently, the country is responsible for a third of all the fresh lava on earth².

This research entails the effects of volcanology on Iceland and how the Icelandic people have adapted to these eruptions. The methods used to collect data were secondary sources, interviews and observation. It was evident that the volcanic activities have had tremendous effects on the Icelandic people and the surrounding countries. Some of the affected sectors include aviation, soil, agriculture, tourism, research and many more.

INTRODUCTION

Due to Iceland's location on the mid-Atlantic ridge, which is an integral part of the global mid-oceanic ridge system, the country experiences a lot of seismic activities. The ridge is a 40,000 km crack in the ocean floor caused by the separation of the North American and Eurasian tectonic plates². The country has 30 active volcanic systems that feature all volcano types and eruption styles known on earth¹.

When the plates meet, they rub against each other as they slide in opposite directions and even collide head on in a stalemate pushing each other¹. Sometimes, the plates move away from each other releasing energy in the form of lava extrusion.

Due to the country's location on the mid Atlantic ridge, Iceland is prone to earthquakes, tremors and volcanic eruptions. One of the most recent disruptive eruption occurred in 2010 and affected many other countries other than Iceland.

METHODOLOGY

There were several methods used for data collection. They include:

Interviews— Conducted several interviews with different people in Iceland.

Observation— Got to observe the effects of the volcanic activities on the country such as land formation and ash accumulation.

Secondary Sources— Used several published books and journals to gather data on the effects of volcanic activities in Iceland.

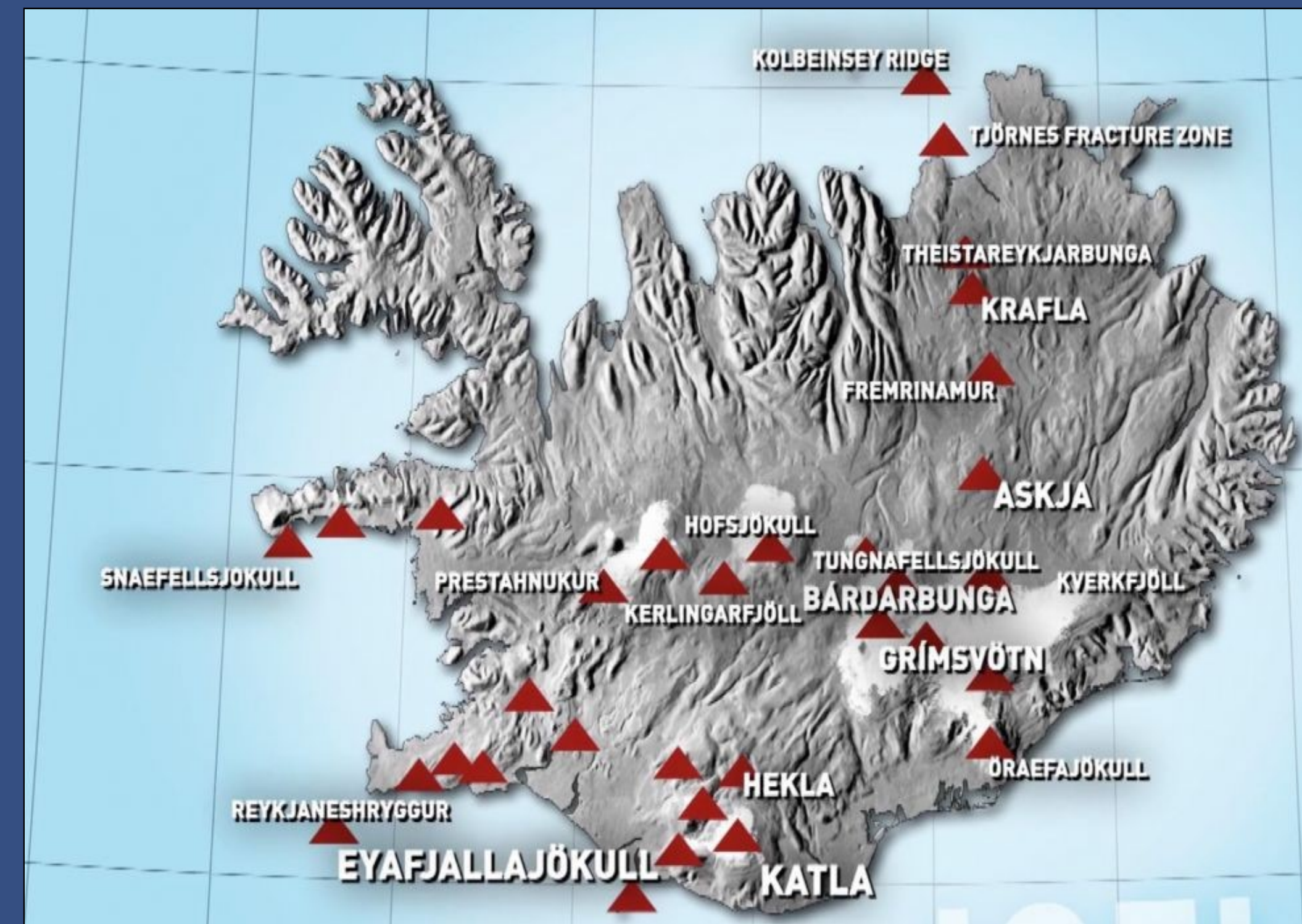


Figure 1: Volcanoes in Iceland²



Figure 2: Surtsey island(1963-1967)³

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KEY FINDINGS

There were several effects of volcanic activities such as:

Positive

- Land formation
- Increase in soil fertility
- Increase in tourism
- Rock formations
- Increased research on life establishment in new territories²

Negative

- Destruction of crops
- Death of animals and livestock
- Soil erosion
- Occurrence of avalanches and landslides
- Property destruction
- Loss of money by businesses
- Acidic rain
- Health effects
- Disruption of flights

CONCLUSION

It was evident from the research that volcanic activities have tremendous effects on the Icelandic people; some positive while others negative. They affect the daily human activities of agriculture, flight and even road transportation. The eruptions can lead to huge losses in terms of property. However, the Icelandic people have developed measures to adapt the volcanic activities. They have monitoring devices set up around active volcanoes to monitor the seismic activities. In addition to that, they have a texting system to inform people in advance incase of eruptions. The cellular network is strong so as to ensure that everyone is updated on the current conditions of the volcanoes. The government also organizes formal sessions on the emergency procedures used to prepare for eruptions. Other than that, there is a fund specifically created to compensate individuals affected by the eruptions. Thus, it is evident that amidst the severity of the volcanic eruptions Iceland has robust systems in place to handle these eruptions. This research was partially funded by the Office of Undergraduate Research's Ignite Travel Grant, the Honors Program, and the Dean's office.