

Research Field

# Vulcanology

Definition

Vulcanology is the study of volcanoes. A vulcanologist is a person who studies in this field (note: can also be spelled volcanology or volcanologist).

**World map showing volcanoes (triangles)**



The map above is based on a map from Volcanoes of the World:  
<http://www.volcano.si.edu/world/maps/world.png>

Observations

When volcanoes are plotted on a world map, vulcanologists note some interesting patterns. There is a ring of volcanoes that goes right around the Pacific Ocean rim. Vulcanologists think volcanoes are present where giant plates beneath the earth collide. All of the Pacific islands are actually the tops of underwater volcanoes. As you go further north and west along these lines of islands they get older and more worn down. Vulcanologists think this is because there is a “hot spot” of magma pushing through the ocean floor, and the whole Pacific plate is slowly moving over this hot spot.

Questions

1. Why do you think there are so few volcanoes in the middle of the Pacific Ocean? Or Africa?
2. Are there any New Zealand volcanoes that could also be included on this map?
3. How does the study of vulcanology add to our understanding of plate tectonic theory?

## References

### **Field Methods in Vulcanology**

Gas analysis video

<http://www.uhh.hawaii.edu/~csav/field/>

### **Institute of Geological & Nuclear Sciences**

Shortcuts to 'cool' pages

<http://www.gns.cri.nz/kids/index.html>

### **United States Geological Survey**

Weekly Volcanic Activity Report

<http://www.volcano.si.edu/reports/usgs/index.cfm>

J J Aitken (1996). *Plate Tectonics for Curious Kiwis*. Lower Hutt: Institute of Geological & Nuclear Sciences, BK61, 78, p. 83, photos and figures.