

# Exploring Geology on the World-Wide Web – Volcanoes and Volcanism

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## INTRODUCTION

This issue's column will focus on World-Wide Web resources for learning about volcanoes and volcanism.

All of the URL addresses in this article are available as hypertext links from Web pages the authors maintain at:

<http://www.geology.uiuc.edu/~schimmri/geology/geology.html>

and

<http://www.dc.peachnet.edu/~pgore/gore.htm>

Connecting to the resources below from these Web pages will save you a substantial amount of typing. Also, due to the lead time between the writing of this article and its publication, along with the volatile nature of the World-Wide Web, URL addresses may change periodically and the Web pages will be maintained to reflect any such changes in the resources described below.

## GLOBAL VOLCANO INFORMATION

The following sites have large amounts of information about volcanoes and volcanism around the world.

### Michigan Technological University Volcanoes Page

<http://www.geo.mtu.edu/volcanoes/>

One of the best places to go for volcano information. The MTU page has a worldwide volcanic reference map (color elevation map of the world with numbers for volcano locations) along with information on recent and ongoing volcanic activity, volcanic hazards mitigation, and remote sensing of volcanoes. It also has links to *Decade Volcano* information and 21 online journals related to volcanology.

### Volcano World

<http://volcano.und.nodak.edu/>

This is a superb volcano site, which is supported by NASA's *Public Use of Earth and Space Science Data Over the Internet* program. One of the most useful features is the clickable world map (with red triangles for volcanoes) and list of currently erupting volcanoes, arranged by date of event. You can find a file of volcano images, volcano lesson plans, volcano news and current events, the "volcano mall" (a guide to purchasing volcano books, maps, calendars, and so

forth), and plenty of educational information including a discussion of volcanoes on Earth, Mars, and the Moon. There are links to volcanic parks and national monuments, including Hawaii, Mount St. Helens, and other places such as Yellowstone, Devils Tower, Wyoming, and Crater Lake – all superbly illustrated. You might also enjoy the "Ask A Volcanologist" feature. There is also a search function.

## IAVCEI

[http://xrftmac.lanl.gov/Heiken/IAVCEI\\_home\\_page](http://xrftmac.lanl.gov/Heiken/IAVCEI_home_page)

The International Association of Volcanology and Chemistry of the Earth's Interior is the focus for research in volcanology and related disciplines. It is responsible for the Decade Volcano project, for which 15 volcanoes have been nominated. It has commissions to study various topics such as mitigation of volcanic disasters, explosive volcanism, chemistry of volcanic gases, volcanoes and Earth's atmosphere, volcanogenic sediments, volcanic lakes, large volume basalt provinces, and granites.

## Global Volcanism Program

<http://nmnhwww.si.edu/gopher-menus/SmithsonianGlobalVolcanismProgram.html>

This program at the Smithsonian Institution maintains a database of all known global volcanic activity over the last 10,000 years and is building a petrologic database for volcanic materials. The *Global Volcanism Network Bulletin*, a monthly newsletter covering 1994 and 1995, contains information (including seismograms, maps, and images) of volcanoes worldwide. There is also a link to the Volcano Listserv.

## World-Wide Volcanism

<http://skye.gsfc.nasa.gov/wvolcano.html>

A NASA server with a full-color clickable relief map with red triangles for major volcanoes or volcanic areas. Contains information on current and recent volcanic activity, an index to volcanoes from A to Z, volcano research centers and observatories, volcanic reference and educational material, and the ever popular volcanism on other worlds ("starring" Mars, Venus, Io, and the Moon), with links to eruption images from various TOMS (Total Ozone Mapping Spectrometer) satellites.

## Satellite Images

<http://www.jpl.nasa.gov/sircxsar/>

This is a NASA Web page for the joint U.S.-German-Italian Spaceborne Imaging Radar-C/X-Band





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their seismicity and eruptions. If there's been a large recent eruption, students could track the volcanic ash from NOAA or the Worldwide Weather server. The instructor might also wish to lead the class on virtual field trips to Kilauea in Hawaii or Ascension Island.

As an introduction to the study of plate tectonics, it is interesting to compare and contrast the character and distribution of volcanism on Earth with volcanism on the Moon, Venus, Mars, and/or Jupiter's moon Io. Alternatively, one could compare and contrast Hawaiian volcanoes with those in the Cascades to see

the dramatic differences between oceanic-hotspot shield volcanoes and subduction-related composite volcanoes.

Finally, many of these sites illustrate quite nicely how the scientific study of volcanoes is multidisciplinary and encompasses the disciplines of tectonics, igneous petrology, seismology, geochemistry, remote sensing, and so on.

The next column will discuss World-Wide Web resources for learning about rocks, minerals, and crystallography.