

Geology in the News

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Pierce and East Los Angeles Colleges

Recent Discoveries in Science

Death Valley's Ubehebe Crater Ready To Erupt?

Source: Journal of Geophysical Letters, January 2012



Death Valley is a fascinating area with many interesting geologic features including a landscape pockmarked with craters that have long known to be the origin of long-past volcanic eruptions. These explosive eruptions were the result of rising magma coming in contact with pockets of water. Co-author Brent Goehrin describes the eruptions as producing a hot mushroom cloud of gases that move over the ground surface at over 200 miles per hour. The evidence comes from chemical markers in fragments of rocks gathered near Ubehebe.

Recently, a team of scientists from the Lamont-Doherty Earth Observatory at Columbia University discovered new evidence that

That could put the present day within the geological cross hairs, according to Nicholas Christie-Blick, a Lamont-Doherty Earth Observatory professor.

Ubehebe Crater erupted as recently as 800 years ago. Although

Planet Green

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Measurable improvements in air quality and visibility, human health, and water quality in many acid-sensitive lakes and streams, have been achieved through emissions reductions from electric generating power plants and resulting decreases in acid rain. These are some of the key findings in a report to Congress by the National Acid Precitation Assessment Program, a cooperative federal program.

The report shows that since the establishment of the Acid Rain Program, under Title IV of the 1990 Clean Air Act Amendments, there has been substantial reductions in sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions from power plants that use fossil fuels like coal, gas and oil.

<http://www.usgs.gov/newsroom/article.asp?ID=3078>

that is equivalent to about 8 human lifetimes, in geologic time, it is a blink of the eye.

Dating analysis of the volcanic rocks indicate that eruptions occurred approximately every 1,000 years, so the next eruption of Ubehebe Crater could be just around the corner.

Read more: http://news.nationalgeographic.com/news/2012/120125-death-valley-volcano-ubebe-crater-science/?source=hp_dl1_news_volcano20120127

USGS California Volcano Observatory Opens

Keeping An Eye on California Volcanoes with CalVO

Source: United States Geological Survey Release

The U.S. Geological Survey announces the establishment of the USGS California Volcano Observatory, or CalVO, headquartered within existing USGS facilities in Menlo Park, Calif. Establishing CalVO will increase awareness of and resiliency to the volcano threats in California, many of which pose significant threats to the economy and well-being of the state and its inhabitants.

“By uniting the research, monitoring, and hazard assessment for all of the volcanoes that pose a threat to the residents of California, CalVO will provide improved hazard information products to the public and decision makers alike,” explained USGS director Marcia McNutt. “This realignment is part of the USGS’s efforts to build the National Volcano Early Warning System, a prioritized modernization of USGS volcano monitoring enabled through the American Reinvestment and Recovery Act.”

CalVO takes on responsibility for research, monitoring, and assessing hazards for all of the potentially active volcanoes in California and coordinating with local and State emergency managers to prepare for responding to renewed volcanic activity. Previously, the USGS Cascades Volcano Observatory in Vancouver, Wash was responsible for responding to volcanic unrest at some northern California volcanoes and it also replaces the former Long Valley Observatory, established in 1982 to monitor the restless Long Valley Caldera and Mono-Inyo Craters region of California.

“California is the most geologically diverse state in the nation. We are known for our earthquakes, landslides and flood hazards. But our nearly forgotten hazard is our volcanoes,” said Dr. John Parrish, the State Geologist of California. In 2005, the USGS issued an assessment entitled “Volcanic Threat and Monitoring Capabilities in the United States” (USGS OFR 2005-1164).

“More than 500 volcanic vents have been identified in the State of California. At least 76 of these vents have erupted, some repeatedly, during the last 10,000 years. ... Sooner or later, volcanoes in California will erupt again, and they could have serious impacts on the health and safety of the State’s citizens as well as on its economy.” Miller, C. Dan, 1989, [*Potential Hazards from Future Volcanic Eruptions in California: U.S. Geological Survey Bulletin 1847, 17p*](#)

Volcanic threat rankings for U.S. volcanoes were derived from a combination of factors including age of the volcano, potential hazards (the destructive natural phenomena produced by a volcano), exposure (people and property at risk from the hazards), and current level of monitoring (real-time sensors in place to detect volcanic unrest).

For more information on the USGS Volcano Hazard Program visit <http://volcanoes.usgs.gov/>. See also USGS fact sheets: "The National Volcano Early Warning System (NVEWS)" FS-2006-3142 and "U.S. Geological Survey's Alert Notification System for Volcanic Activity," FS-2006-3139.

Story Reference: <http://www.usgs.gov/newsroom/article.asp?ID=3097>

President Obama Honors Quake-Catcher Network Inventor Elizabeth Cochran

Source: United States Geological Survey Release

Dr. Elizabeth Cochran, a geophysicist with the U.S. Geological Survey, was named one of President Obama's recipients of the Presidential Early Career Awards for Scientists and Engineers, the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers. Dr. Cochran, who came to work for the USGS in June after a career as an assistant professor at the University of California, Riverside, is an accomplished

Recent Earthquakes in the United States

- [Magnitude 6.0 OFF THE COAST OF OREGON February 15, 2012](#)
- [Magnitude 6.4 SOLOMON ISLANDS February 14, 2012](#)
- [Magnitude 5.6 NORTHERN CALIFORNIA February 13, 2012](#)
- [Magnitude 6.7 NEGROS - CEBU REGION, PHILIPPINES February 06, 2012](#)
- [Magnitude 7.1 VANUATU February 02, 2012](#)

Source: <http://earthquake.usgs.gov/earthquakes/eqinthenews/>

seismologist. She has made important contributions to the development of a new method of earthquake monitoring using low-cost earthquake sensors, called the Quake-Catcher Network (QCN). This network allows scientists to monitor earthquakes and quantify ground shaking with unprecedented spatial resolution through data gathered from citizen volunteers.

"It is inspiring to see the innovative work being done by these scientists and engineers as they ramp up their careers — careers that I know will be not only personally rewarding but also invaluable to the Nation," President Obama said. "That so many of them are also devoting time to mentoring and other forms of community service speaks volumes about their potential for leadership, not only as scientists but as model citizens." The Presidential early career awards embody the high priority the Obama Administration places on producing outstanding scientists and engineers to advance the Nation's goals, tackle grand challenges, and contribute to the American economy.

"It is an incredible honor to receive this award, and it is nice that it recognizes the combination of research and education," said Cochran, who was nominated for the award by the National Science Foundation. "I am very proud and a little stunned." "Dr. Cochran's work on next generation sensor networks is exactly what the United States needs to help enable earthquake early warning," said USGS Director Dr. Marcia McNutt. "As was clearly demonstrated by the recent Japanese experience, even a few seconds of warning before an earthquake can reduce the loss of life and property. Dr. Cochran's innovative research will help make the nation safer from this natural hazard."

Story Reference: <http://www.usgs.gov/newsroom/article.asp?ID=2969>

Campus Doings

- A college fair will be held at East Los Angeles College on Tuesday April 17, 2012. The fair will be located on the E3/E5 Walkway and representatives from four year colleges including UC Irvine, Academy of Art University, Cal-State Los Angeles, Long Beach, and Channel Islands among others will be there to provide application information.

Field Class on Catalina Island

- **Summer Course for Undergraduates 2012 – Global Environmental Microbiology (GEM):** A four week course in microbiology and microbial energy will explore organisms who reside everywhere from hydrothermal vents deep in the ocean to tropical rainforests at the equator. The course will be taught as a field based, hand on class by Professors Eric Webb and John Heidelberg. The first two weeks of lecture and lab classes will be held at University of Southern California and the remaining two weeks will be held on Catalina Island. Course expenses, room, and board will be paid by C-DEBI and underrepresented students are encouraged to apply. Contact course administrator Cynthia Joseph at 213-821-2760 or at outreach@darkenergybiosphere.org for more information.

Research Opportunities

- **Summer Arctic Expeditionary Program on the Juneau Field Icefield and Atlin Lake region, British Columbia-Yukon:** An exploration and research program that emphasizes the total systems inter-relationships of field geology, environmental geography, alpine geomorphology, ecology, geophysics, glaciology, glaciohydrology, remote sensing, meteorology, and surveying. Participants earn three (3) to nine (9) units of academic credits and experience working on one of the most spectacular and fifth largest icefield in the Western Hemisphere! Partial to full scholarships are available for early applicants and some travel grants may be arranged. Students will be in the field from June 23 to August 18, 2012 and the full regular fee is \$4,800 for room, board, and field logistic costs. Application forms are available at www.juneauicefield.com or you may email jjrp@gmail.com or call 208-301-3860. This program is held in cooperation with NASA and in partnership with the Juneau Icefield Research Program, the Foundation for Glacier and Environmental Research, and the University of Alaska Southeast.