



ASSOCIATION OF ENVIRONMENTAL AND ENGINEERING GEOLOGISTS
San Francisco Section

Announcing the October 2009 San Francisco Section Meeting
CCGO Fundraiser

**Understanding Volcanoes May Be the Key to
Controlling Global Warming**

Dr. Peter L. Ward

MEETING DETAILS

Restaurant:

Sinbad's
Pier 2 Embarcadero Street
San Francisco, CA

Date and Time:

Tuesday, October 13th, 2009
6:00 pm—Social Hour and Sign-in
7:00 pm—Dinner
8:00 pm—Presentation

Cost: \$50 AEG members, \$52 non-members, \$15 Students

Meal Choice: Chicken, Beef, Fish, and Vegetarian – you do not need to send in your meal choice.

Reservations*: To RSVP, fax or e-mail Sachiko Tanikawa by **12 PM, Friday October 9th**.
(fax # 866-400-4068, email: treasurer@aeqsf.org) with the following information:

(1) Name (2) Phone number/e-mail

Driving Directions: From the Bay Bridge, take the Fremont Street Exit and the Folsom Street Ramp. Go left (east) on Folsom Street, then left (north) onto the Embarcadero (Herb Caen Way). The driveway for Sinbad's is on the right, south of the historic Ferry Building. Please watch out for the pedestrians and cyclists when turning into the driveway. Thank you.

BART Directions: Exit the Embarcadero Station; walk up Market Street toward the Ferry Building (less than ½ a mile toward the Bay and to the east). Cross Embarcadero and Sinbad's is located next to the Alameda ferry pier on the south side the historic Ferry Building.

Parking: \$4 valet parking is available or you can park at a meter somewhere on a side street off the Embarcadero.

*To assist us with reservations and to help the restaurant with the set-up, please RSVP in advance. Walk-ins are welcome, but not guaranteed. No shows and late cancellations will be charged.

See next page for abstracts and speaker biographies.

Understanding Volcanoes May Be the Key to Controlling Global Warming

Dr. Peter L. Ward

ABSTRACT

Our life-sustaining, oxygen-rich atmosphere was formed primarily by gases erupted from volcanoes. Without continued eruptions, most life on earth would soon vanish. Yet moderate sequences of large volcanic eruptions have cooled the earth incrementally into ice ages, high rates of eruptions have propelled the earth out of ice ages, and massive eruptions of flood basalts covering areas as large as Washington, Oregon, California and Nevada combined have caused widespread extinctions of the majority of species. We live in a delicate balance dependent in a significant way on changes in the rates and types of volcanism.

During the 20th century, man burning fossil fuels upset this balance. Man emitted as much sulfur dioxide as volcanoes emitted during the times of most-rapid warming at the end of the last ice age. The earth warmed rapidly. Between 1980 and 2000, man reduced sulfur emissions by 18% in an effort to reduce acid rain. The rapid rise in global temperatures ceased by 1998. Understanding how volcanoes have initiated abrupt climate change over the eons suggests ways for man to mitigate global warming during the 21st century.

SPEAKER BIOGRAPHY

Dr. Peter L. Ward studied active volcanoes since 1963, received a B.A. from Dartmouth, a Ph.D. from Columbia, and worked 27 years with the U. S. Geological Survey in Menlo Park, California. He was a primary leader in developing and managing the National Earthquake Hazards Reduction Program. He received two national awards for a magazine about living safely with earthquakes that he wrote, produced, and distributed to 3.3 million families in northern California. In 1997 and 1998, he chaired the Working Group on Natural Disaster Information Systems at the White House. He has published widely on volcanoes, earthquakes, earthquake prediction, public warning, plate tectonics, the geology of western North America and now climate.

Thank you for the RSVP! See you on **Tuesday, October 13th**.