



Leading the Quest for Quake Forecasting

NEWSLETTER

Fourth Quarter, 2012

Greece installations: Volcano included

Tom Bleier and our Greek partner, Gerassimos Papadopoulos, worked together to install 4 new QuakeFinder instruments in Greece. The first 2 sites were on the Greek mainland near Corinth while the other 2 sites, on Santorini island, are in a location where there has been some recent volcanic activity. The Santorini sites are near a 4 x 7 mile caldera; surrounded by 980 ft. high cliffs, it is filled with water from the Aegean Sea. Cruise ships dock in the caldera and drop tourists onto this amazing island. We may be able to see a change in magnetic pulse rate, caused by an increase in stress, if magma rises up to the volcanic cone in the center of the caldera. The volcano was last active in 1950, but in 1600 BC, the center part of the island essentially blew apart during an eruption. In addition to the installation support, we also had critical help from Vodafone-Greece. They generously donated cell modems and cell circuits that enable us to gather data from the sites each day.



Santorini a volcanic island in the Cyclades group of the Greek islands



Painting showing volcanic activity from 1950

American Geophysical Union (AGU) Conference in San Francisco

QuakeFinder presentation

Clark Dunson and Tom Bleier presented a poster, "The development of several electromagnetic monitoring strategies and algorithms for validating pre-earthquake electromagnetic signals" and it generated considerable interest from several universities, few government agencies and companies. As we sifted through the thousands of other technical presentations at this year's AGU conference, we noticed one from Yukio Fujinawa of Japan. He presented an experiment that showed "... deep underground electric field measurements, using a special antenna, could detect micro-cracks appearing in the nucleation stage of the Tohoku Earthquake. Large pulse-like variations...were observed using an electric field antenna in a 100m deep hole, and they appeared very similar to our magnetometer signals.

It is reassuring to see others can see similar pre-earthquake signals to those that we detect.

Public Participation in Earthquake Research

Just as we are collaborating with the public to host our magnetometer instruments to detect earthquake signals, we saw several experiments where the public was used to host instruments to detect earthquakes after they happen. As far as we know, QuakeFinder is the only organization that is collaborating with the public to detect and record pre-earthquake electromagnetic signals. We appreciate our instrument site "hosts" who represent the portion of the public who are participating in earthquake forecasting.

The world needs warning. Reliable earthquake forecasts will someday save lives.

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QuakeFinder is a humanitarian R&D project supported primarily by [Stellar Solutions](#). Our work, based on sound scientific theory and practice, aims to create a system for short-term (days to weeks) forecasting of major earthquakes.

