



Leading the Quest for
Quake Forecasting

NEWSLETTER
Fourth Quarter, 2013

Summary of the American Geophysical Union (AGU) Conference

December 9-13, 2013

This year's AGU attracted over 24,000 Earth and space scientists. For the first time, QuakeFinder chaired a session (NH22A) which focused on "Interdisciplinary Collaborations and Progress in Earthquake Forecasting". This is a very big step for us, since ten years ago, we barely knew about the AGU.



NH22A Summary:

- ▶ Lily Christman (USGS/Stanford) presented findings regarding the 2007 Alum Rock quake where QF first discovered magnetic pulses. She hand-counted pulses at our site in East Milpitas, and a USGS site at Jasper Ridge, near Stanford. She compared our data in the eighteen days prior to the 2007/10/31 earthquake with a quiet day in June. It showed that the QuakeFinder site saw an increase in pulse activity in October over the month of June (at 2 km from the epicenter) while the USGS Jasper Ridge site did not detect the same pulses (41 km from the quake).
- ▶ Jorge Heraud gave an intriguing talk and used an azimuth method with 2 adjacent magnetometer sites near Lima, Peru, to triangulate to a point near where several M4-5 earthquakes eventually occurred off the coast. To finish the analyses, next we need to verify that lightning has not contaminated the data.
- ▶ Valerio Tramutoli from the National Research Council in Italy presented his latest work in analyzing Thermal Infrared Anomalies. This low Earth satellite IR research detects heat blooms near future epicenters based on comparing heat distributions over Italy from the past. He claims about a 40% success rate. This method has difficulties with clouds obscuring the areas.
- ▶ Friedemann Freund presented a talk about counting animal passages in front of cameras. It showed that animal counts dropped dramatically in the weeks prior to an earthquake, and that certain species vacated the test area sooner, while others did not.
- ▶ Janine Baijnath from NASA Ames presented a case for increases of CO (carbon monoxide) and other trace gasses due to chemical processes that are formed due to the presence of p-hole charge carriers. She presented data from a sensor near January 2001 M 7.6 Gujarat earthquake in India where there was a significant increase in CO over a 100 km area as evidenced by the MOPITT sensor onboard the NASA Terra satellite. She also presented laboratory results where a gabbro rock was stimulated to produce CO via ultrasound.
- ▶ Lou-Chuang Lee from National Central University of Taiwan has analytically constructed the classical field equations that might explain why the observed changes in ionospheric TEC (total electron content) occur. He also showed mathematically that any ground currents produce localized anomalies directly above in the ionosphere.

In summary, we saw many reports of pre-earthquake anomalies 4, 11, 12, 19, 29, 30 days. Radon emissions, Infrasound, TIR, geomagnetic pulses, TEC variations, and seismic foreshocks appear to happen days before the quake, then disappear, sometimes returning the day of the quake. This "signal, quiet, signal, quake" pattern is similar to the pattern QF has reported.

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



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