

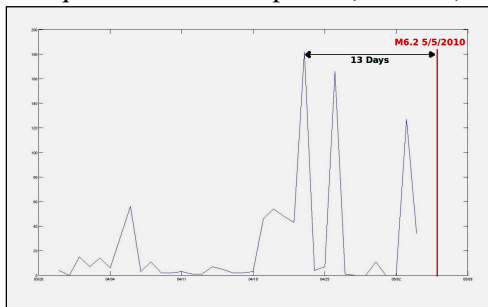
### Second Pre-Earthquake Signal Success

On May 5<sup>th</sup>, 2010 there was a M6.2 earthquake in Tacna, Peru. Earlier in 2009, we collaborated with the Catholic University in Lima Peru (PUCP) and installed 2 new QF-1007 magnetometer systems, one at El Carmen, and one at Tacna, shown on the map below.



The Tacna site went on line on March 30, 2010, and it was 29km from the epicenter, just within the range of our sensors. We had noticed some unusual pulsations on April 23<sup>rd</sup>, and sent an email to Dr Heraud

at PUCP on April 28<sup>th</sup> (9 days before the quake) asking if there had been any lightning activity nearby (no)—and stated that it looked unusual, and we were continuing to watch the patterns. The same type of magnetic pulses observed at Alum Rock, Ca. in 2007 (strike slip fault) seemed to exist at Tacna (a subduction zone). The figure below shows the resulting pulse count history prior to the quake. The first pulse (left side) is due to a solar storm, but the sustained pulse activity starting 13 days prior to the quake, is unique to the earthquake.



A second indicator, air conductivity also showed a marked increase in positive ions in the area near the sensor.

There was an unfortunate solar storm that appeared around the start of April, but we learned how to filter out two types of solar-induced magnetic noise—and this made the quake pulse count stand out even more! Tacna was a major success for QuakeFinder, and armed with this new noise suppression technique, we are finding more cases where the pulses can be seen in our history files, near smaller earthquakes.

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### New Sensors for Taiwan and California

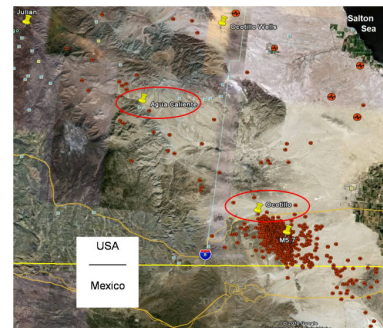
This year, we collaborated with Dr. Tiger Liu at the National Central University (NCU) in Taiwan to install two QF-1007 units in their country near areas of high earthquake risk. Taiwan has almost 10 times the number of earthquakes as California, and we hope to start a network of sensors there to augment a very comprehensive earthquake forecasting research program there. Bob Camins of QF is shown below finishing the building and testing of the Taiwan units in our Palo Alto lab. We will install these in late June of 2010.



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This year we also built 2 more units for California. Recently, there was a M7.2 earthquake in Baja

California, but the aftershock pattern appeared to migrate up towards the California border. There was a very unusual “cluster” of small quakes near Ocotillo California, and on June 14<sup>th</sup> there was a M5.7 quake in the middle of that cluster. In case that activity is a precursor rather than an aftershock, QF will install both sensors in that area in an attempt to capture any future pre-earthquake pulse activity.



Stay tuned-----

If you would like to see more about the Alum Rock, Tacna, or Ocotillo quakes, please go to our website at [www.quakefinder.com](http://www.quakefinder.com)

### Looking for Sponsors to Support our Research

The Tacna results helps prove our methods and our work is more promising than ever. Help us bring forward the day when we’ll have a reliable way to forecast major quakes.

For more information or to donate to the cause, please contact Tom Bleier at [tbleier@quakefinder.com](mailto:tbleier@quakefinder.com)