

Taiwan: Completing the Network

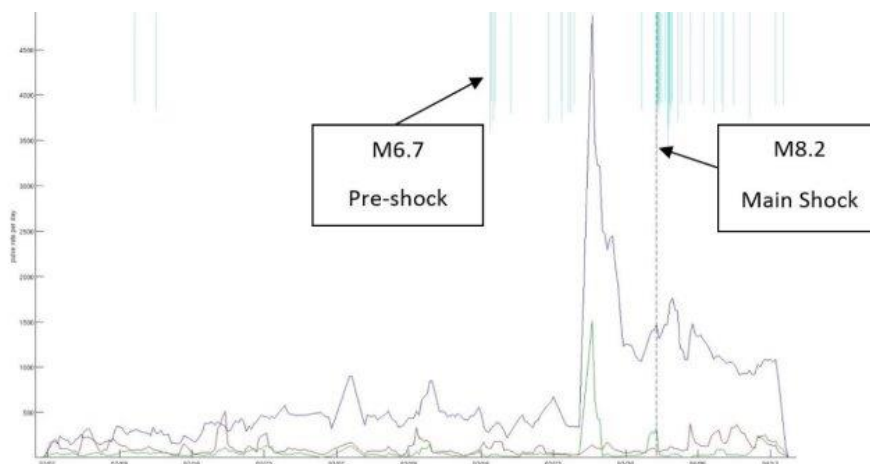
QuakeFinder has been collaborating with Dr. Tiger Liu and his team at the [National Central University](#) (NCU) in Taiwan for several years. So far, this collaboration has resulted in 5 trips to Taiwan and 15 donated instruments.



In May of this year, QuakeFinder technicians Bob and Rey Camins traveled to Taiwan, installed the last 4 instruments, and upgraded the existing 11 instruments to the latest configuration, completing the network. Our colleagues were especially helpful in getting this network installed and running. The installation process involved 12-hour work days, mosquitoes, really large spiders, and occasional snakes. During this trip, heavy rain and landslides were added to the challenges, but the team hung in there and finished the job on time. Many thanks go to the entire team for all their cooperation and hard work.

Quake Activity in Chile: Iquique Quake Cluster M6.1 to M 8.2 March 16-April 3

Among the several analyses we performed this quarter, we analyzed a cluster of earthquakes including a M8.2, 149 km from our site at Iquique, Chile. The distances to these earthquakes were several times our nominally estimated detection distance, but because they were so large and we had just installed sensors in the vicinity, we decided to look deeper into the data. We adjusted the threshold detection algorithms (threshold limits tightened to 28% of normal levels) to look for very small signals. Using these tightened thresholds, the Iquique quake then started to show increased pulse counts prior to the main shock (see graph below).



Although the pattern does not follow a “double hump” pattern that we had observed in the 14 days prior to several other quakes (e.g. Alum Rock, Tacna, etc.), this is a relatively distant quake. This analysis is leading us to reevaluate our methodology for setting pulse thresholds.

Baseline Lighting Removal Technique Established

Our research has led us to a baseline “minimum duration” lightning removal technique. As observed over about 10 years of monitoring, most earthquake pulses are greater than 0.5 seconds. Since most lightning pulses are shorter than 0.5 seconds, we simply identify and do not count pulses with a width less than 0.5 seconds.

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.

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