



# QuakeFinder Mission: SAVE LIVES BY FORECASTING EARTHQUAKES



## Challenges

- Earthquakes kill and injure thousands of people every year.
- Today's 30-year quake forecasts driven by building codes are inadequate. New 30-second alarms enable only an extremely limited set of responses.
- With limited budgets, governments are not actively supporting short term (days or weeks) earthquake forecasting.
- The most significant advances in understanding happen only when quakes occur within range of our network.
- This work requires financial support. The focus is on expanding our sensor network and improvement of detection algorithms.

## Solutions

- Several days' warning would allow many effective responses, from pre-positioning supplies, to evacuation as prediction accuracy improves.
- QuakeFinder has detected EM indicators in the days preceding major earthquakes in California and Peru. These could be the basis for an effective forecasting system.
- QuakeFinder is actively researching short term earthquake forecasting and is expanding its sensor network to gather critical supporting data.
- Expand the QuakeFinder sensor network.
- Please consider contributing to the cause of earthquake forecasting research toward the ultimate goal of saving lives.

## HISTORY OF QUAKEFINDER

- ★ Loma Prieta Quake EM Precursor Signals Observed (1989)
- 2000 QuakeFinder Humanitarian R&D activity begins within Stellar Solutions
- 2001 First Magnetometers Deployed
- 2003 QuakeSat Launched
- ★ Alum Rock Quake Detected (2007)
- 2009 First International Deployment
- ★ Tacna Peru Quake Detected (2010)
- 2012 California Expansion (over 100 Sites total)
- ★ 4 Quakes Detected (2012-2013)
- 2013 Expand Int'l Network Advance Signal Processing

## FUNDRAISING GOAL:

**\$2M per year**

- Accelerate sensor deployment
- Expand data collection
- Refine signal analysis

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## QUAKEFINDER RESULTS:

Three independent electromagnetic indicators (magnetic pulses, air ionization, and infrared) were detected simultaneously, 2 weeks prior to the M5.4 2007 Alum Rock earthquake. Similar indicators have been seen in several other quakes detected by QuakeFinder.

