



OVSICORI-UNA: Seismic/Volcano monitoring

Javier Fco. Pacheco

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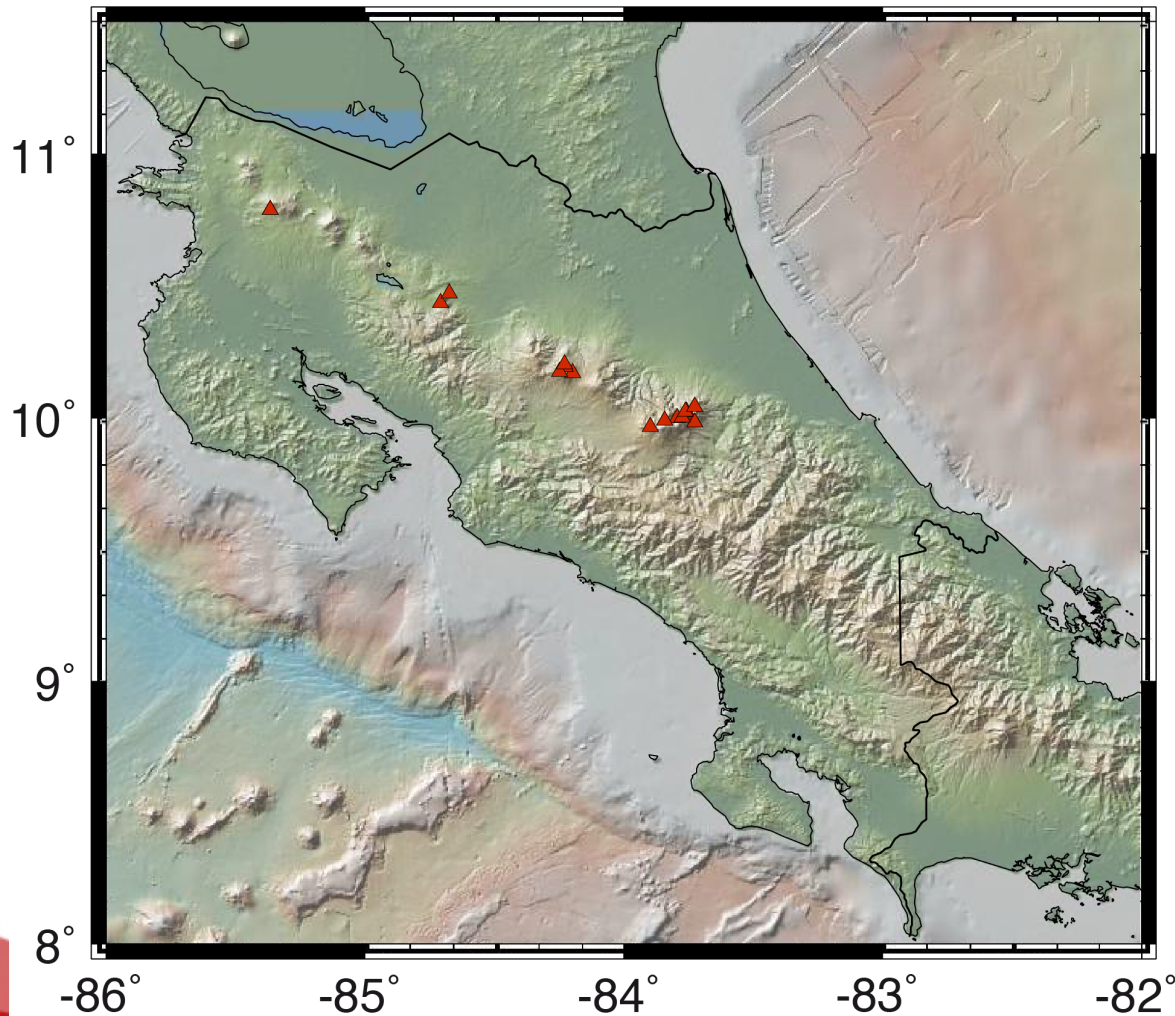
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Active Volcanoes

- Rincón de la Vieja
- Arenal
- Poás
- Irazú
- Turrialba
- Miravalles
- Tenorio
- Platanar
- Barva



Network Distribution



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Seismic Stations

- 8 Short period, 1 component stations
- 8 Temporal Taurus digitizer + Trillium Compact
- 1 Q300 + Trillium 240
- 1 Guralp CMG-DM24S3-EAM + CMG-3ESP Compact



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- Infrasonido
- Inclínómetros



What you need for basic volcano monitoring ?

- *Recognize different types of events*
- *Count different type of events*
- *Time tremor duration*
- *Characterized events by frequency content*
- *Locate Volcano-Tectonic events*
- *High and Low pass filtered RSAM records*
- *Reduced displacement records*
- *Data base*

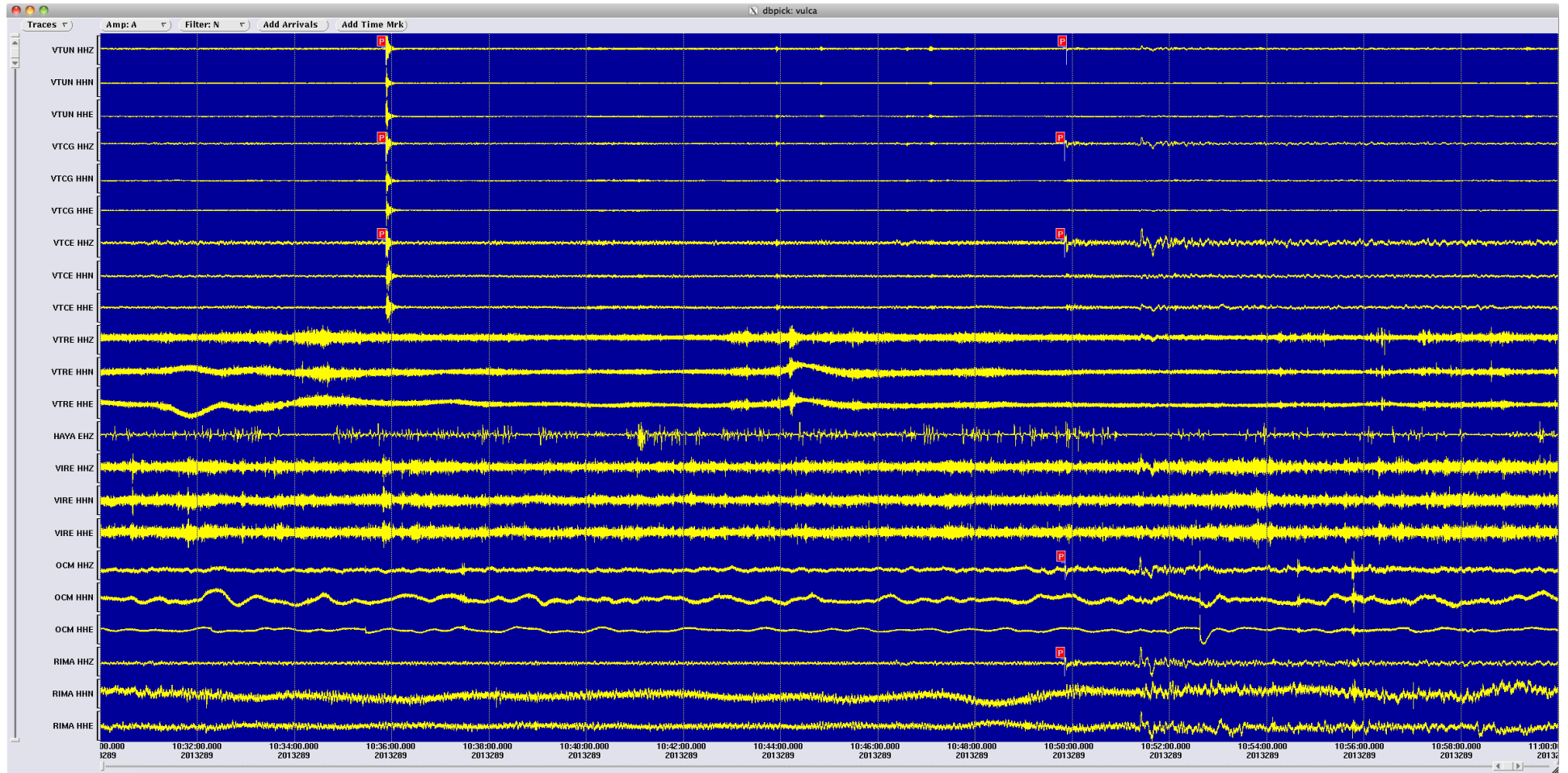


Volcano Seismicity analysis

- *Data Base management*
- *Long and high resolution picking window*
- *Long time windows, spectrograms, spectra (several types)*
- *Real-time RSAM/RSEM calculation and averaging (Display)*
- *Real-time Reduce Displacement calculation (Display)*
- *Different triggering algorithms and filters for different types of events*



Antelope vs Earthworm + Winston/Seisan



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SeismoVolcanalysis



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Interactive Matlab software for the analysis of seismic volcanic signals[☆]

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ABSTRACT

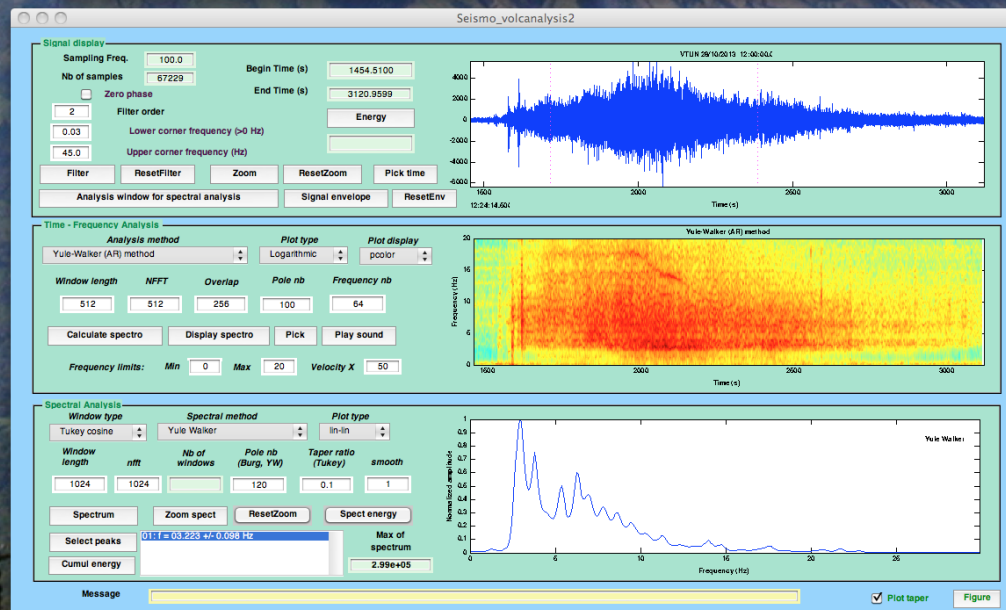
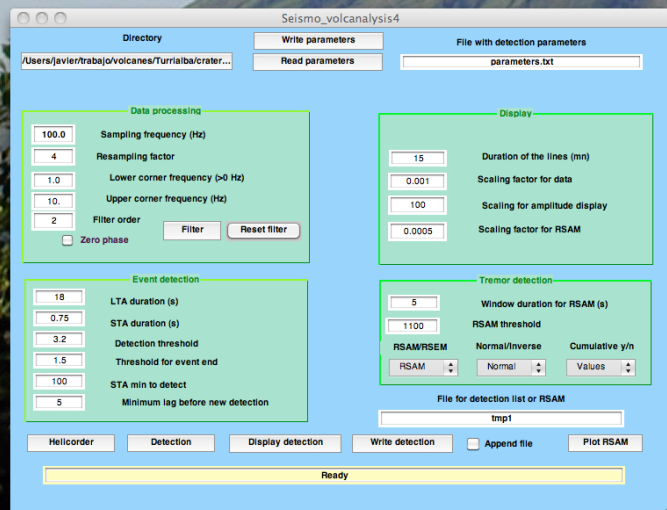
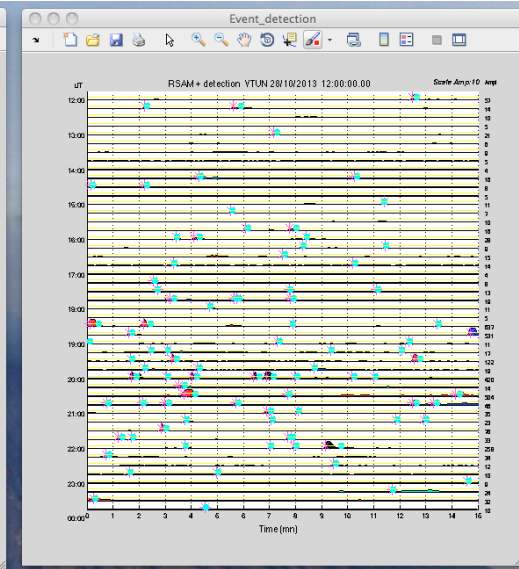
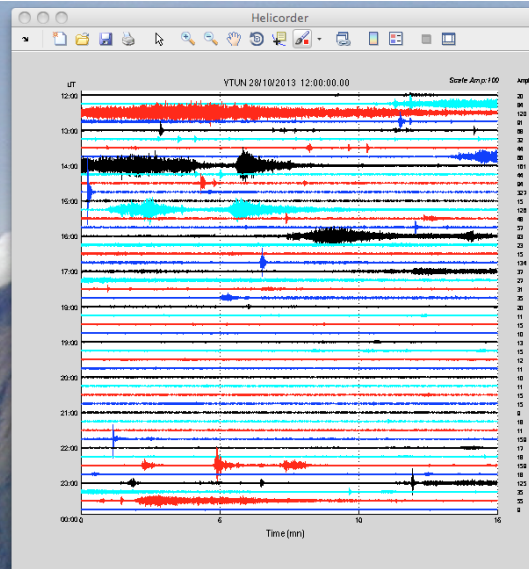
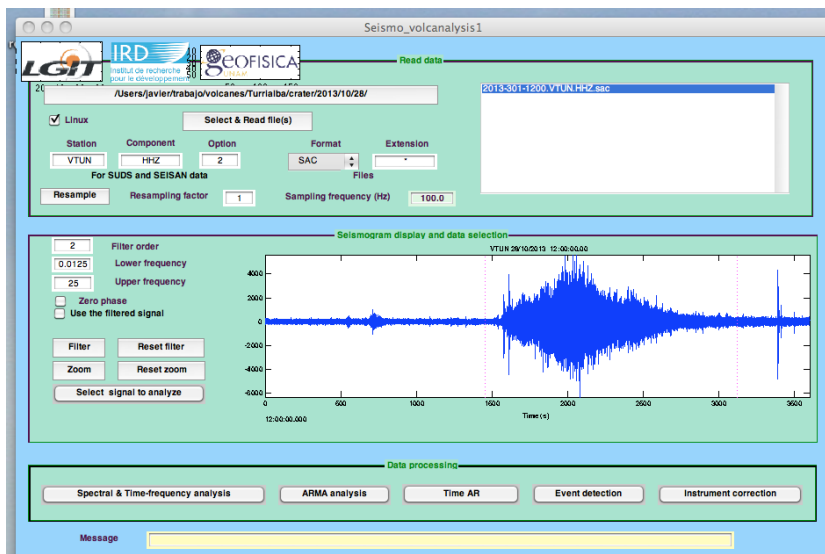
The computer program presented in this note applies methods commonly used in volcano seismology to the analysis of seismic data. It is complementary to the classic seismological software packages used to process tectonic earthquake seismograms. The program's six user-friendly interfaces provide a large set of tools for reading data in many different formats, for carrying out spectral analysis, autoregressive modelling and deconvolution, for calculating time–frequency representations and Real-time Seismic Amplitude Measurement (RSAM)-type time series, and for detecting volcanic tremors and discrete events in long-duration records. A separate version of the program facilitates signal classification when preparing training databases for automatic recognition systems.

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