Chilean Seismological Network

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Our mission is monitoring and keep a complete registry of all the earthquakes that occurs in Chile to deliver, at any time and at any moment, the most complete information to the government agencies, authorities and to the people that design and improve seismic norms that guide the construction of buildings and structures in our land.

To accomplish our mission we must maintain a large, robust and reliable network of seismological stations in the whole country.
Earthquakes with magnitude greater than 5 in Chile region since June, 2013
### Stations in Chile

Map and table of actual seismological stations in Chilean territory

<table>
<thead>
<tr>
<th>Network</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>30</td>
</tr>
<tr>
<td>C</td>
<td>31</td>
</tr>
<tr>
<td>CX</td>
<td>19</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
</tr>
<tr>
<td>UI</td>
<td>1</td>
</tr>
</tbody>
</table>
Photos of a typical seismological station of the new network C1
<table>
<thead>
<tr>
<th>Net</th>
<th>Dig</th>
<th>BroadB</th>
<th>Acc</th>
<th>Datalog</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Q330</td>
<td>Trillium 120</td>
<td>CMG-5T</td>
<td>Marmot (with Antelope)</td>
</tr>
<tr>
<td>C</td>
<td>Q330</td>
<td>Trillium 120</td>
<td>Epi FBA ES-T</td>
<td>Baler</td>
</tr>
<tr>
<td></td>
<td>ED PS6-24</td>
<td>Trillium 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CX</td>
<td>Q330</td>
<td>STS-2</td>
<td>Epi FBA ES-T</td>
<td>Baler</td>
</tr>
<tr>
<td></td>
<td>Q330HR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Digitizers used in stations located in Chilean territory
Adquisition and Processing

- Acquisition: Seiscomp 2.6
- Automatic processing: EarlyBird, EarthWorm
- Manual processing: Seisan
Future plans

• Short term
  • Use of PDL to share specific data with USGS
  • 2nd Datacenter
  • Satellite Hub at CSN
  • Backbone of 20 stations
  • Database of waveform-CSN. Data open to everyone
  • GPS in Real Time
  • Portable Datacenter Hot Stand By
  • Shakecast

• Long term
  • Communicate 297 accelerometers for real time purposes (2 years)
  • 3 contingency sites (northern-center-southern)
  • Network expansion to 900 multiparameter stations (10 years)
Future developments

- Wphase Moment Tensor
- Regional Moment Tensor
- Earthquake Catalog
- Wphase Finite Fault Model
- Teleseismic Finite Fault Model
- Shakemaps