

Seismic and Tsunami Observations of Peru

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1. National Seismic Network

The Geophysical Institute of Peru (IGP) is the governmental institution in charge of the National Seismic Network (RSN), accelerometers network and GPS stations distributed within Peruvian territory. The RSN currently consists of 33 seismic stations which are distributed along the Peruvian territory with 16 stations of short period (SP) and 17 stations of broadband (BB). Fig.1 shows the spatial distribution of the current stations that form a part of National Seismic Network of the IGP.

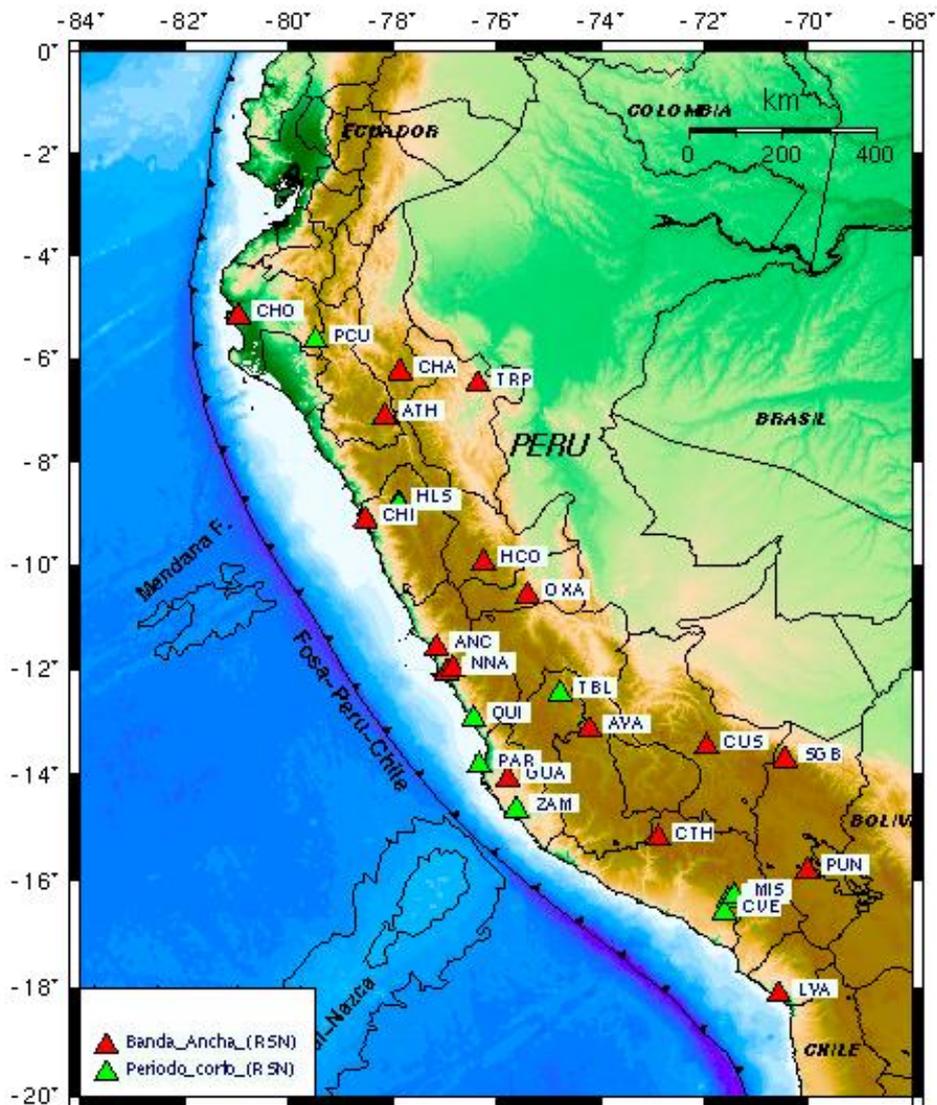


Figure 1. Spatial distribution of the National Seismic Network (RSN) of IGP

Green triangle: Stations of short period (SP)

Red triangle: Stations of broadband (BB)

The IGP is also one of the members of the National Tsunami Warning System (SNAT) which is in charge of providing earthquake information in a briefly time. However, during the last Pisco earthquake in 2007 (8.0Mw), the conventional communication systems collapsed and the transmittance and information processing were strongly affected. Based on this problem, the IGP had acquired a Satellite Seismic Network (REDSSAT) for tsunami early warning with six seismic stations distributed along the Peruvian coast. The main advantages of the system are the invulnerability of the system communication and time reduction in the calculation of the hypocentral parameters. During 2011, IGP was in the operational phase of the implementation of the REDSSAT. Fig.2 shows the Satellite Seismic Network, which is operative since 2011.

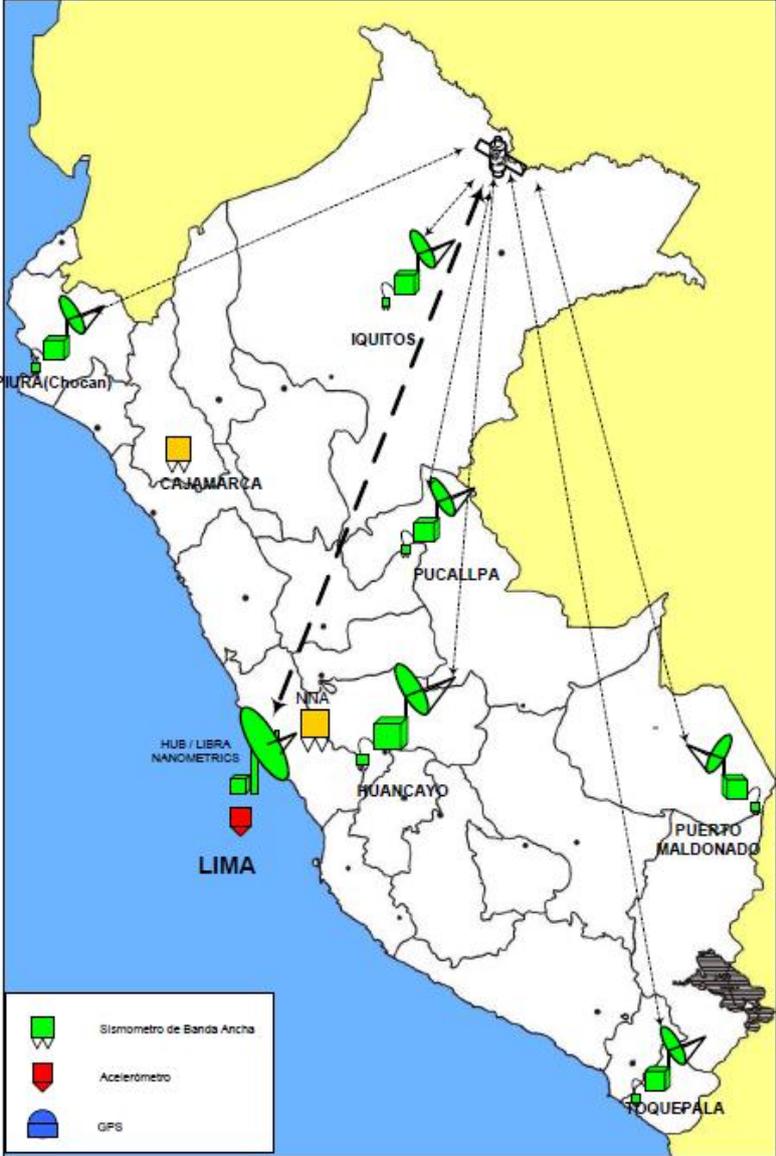


Figure 2. Spatial distribution of the Satellite Seismic Network (REDSSAT), for tsunami early warning

2. Tsunami Observation System

In 1970, Peruvian government created the National Tsunami Warning System (SNAT) which joined to the Pacific Tsunami Warning System (PTWC). The Hydrography and Navigation Direction (DHN) of the Navy of Peru is its official administrator. In order to monitor the sea level, the DHN currently has 8 standard gauges and 12 automatic stations distributed along the Peruvian coast (Fig.3).

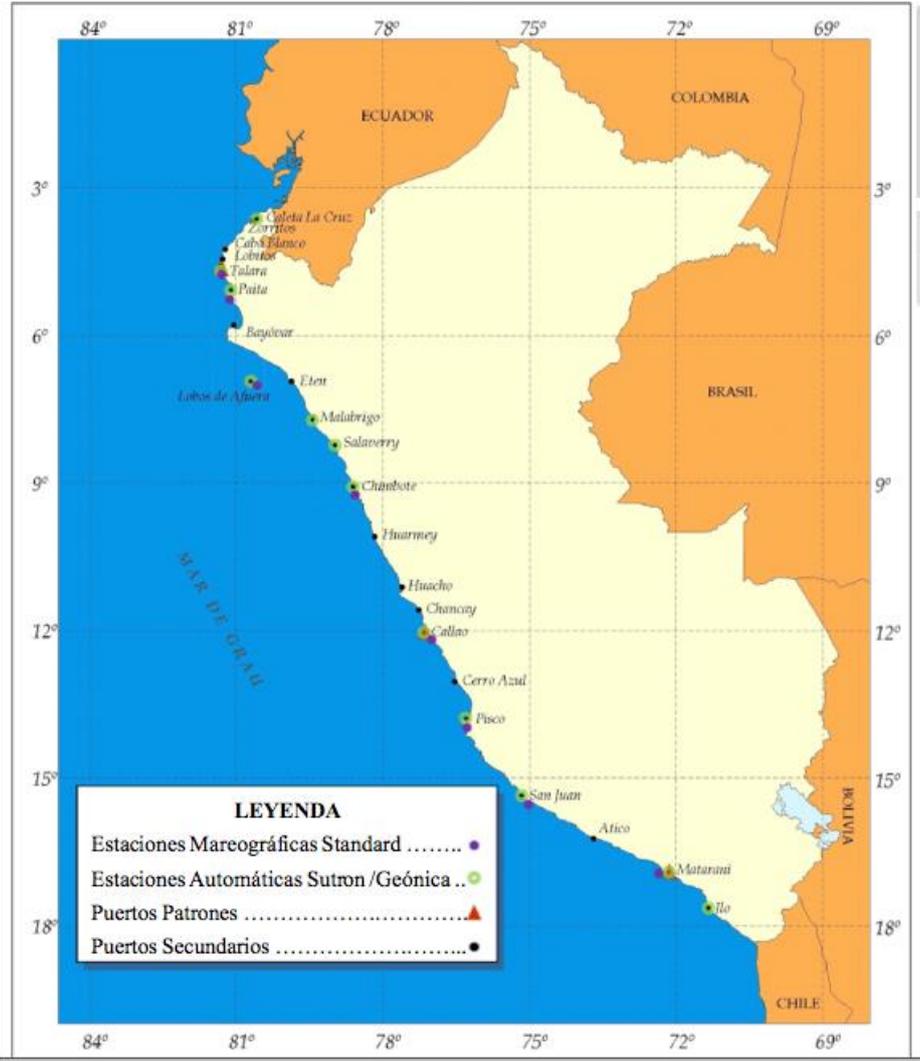


Figure 3. Distribution of the standard gauges and 12 automatic stations