

and Volcanic Networks in Real Time of Instituto Geofísico in Ecuador: Performance, Evaluation and Optimization

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The Instituto Geofísico of the Escuela Politécnica Nacional (IGEPN) is in charge of the monitoring and study of seismic and volcanic activity in the Ecuadorean territory. The networks include monitoring seismic, volcanic and geodetic networks with 105 seismic stations, 11 infrasound sensors, 67 strong motion sensors, 65 GPS of high accuracy and more than 56 stations for lahar detection, gas analysis and visual monitoring in active volcanoes; all of them with real time transmission provided by different and independent technologies: satellite, microwave owned by IGEPN, fiber-optic with 16 nodes in different places in Ecuador, Internet and own subnets with analog or digital radios, which represent 90% of all instrumentation installed in Ecuador. This maintains the National Processing Center for Issuing Seismic and Volcanic Alerts, which operates 24/7 and supplies the information by email, fax, radio, Telegram, Facebook, Twitter and website automatically three minutes after seismic event occurs. This article describes actual network coverage, performance, evaluation and optimization of real time transmission network, with analysis from 2016 to present.

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Promotional text

The Instituto Geofísico in Ecuador introduces the real time transmission networks for seismic and volcano monitoring

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