



Teleseisms recorded by the Aquidauana station (AQDB) in 2015

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Abstract

The objective of this work was to carry out a quality control of the globally reported events recorded at the Aquidauana seismographic station (AQDB), with emphasis on regional events and teleseisms. Specifically, it was aimed to apply the basic concepts of Seismology, both in theoretical and practical aspects, based on the records collected by the Aquidauana seismographic station - AQDB, through the software Seisgram2k and Seismic Analysis Code - SAC. The steps of the work included the acquisition of the data, the visualization of the events, the identification of the events in the NEIC website and in the last step, the calculation of the events identified was performed, highlighting events whose waves are sufficiently clear and evident to confirm the existence of a seismic event. In this step we used the Python Obspy Earthquake Tools - POET script, using the command: `$ python poet.py -b 2015-01-01 -e 2016-01-01 -m 6/10 -t 'BL.AQDB'`, comprising the period from 01/01/2015 to 12/31/2015. The seismic events recorded in this period corresponded to a total of 2299, and 70 of these events had a magnitude of 6.0 Mb or higher from the Andean region, with a special emphasis on Chile. The Aquidauana seismographic station (AQDB) presented a data completeness of 98.4% in 2015, meaning that of the 8760 possible monitoring hours in a year (365 days), the station monitored 8619 hours, or 359 days. This shows that the station has a high reliability index regarding the possibility of recording events, but a factor that should always be considered during data compilation is the aspect to be addressed. The purpose of this study was to verify the capacity of the station to record teleseismic events, whose scale was equal to or higher than 6.0 Richter, and in this context the station remains with good indices of effective record, evidencing that the reliability tends to decrease, without damaging the efficiency of the station.

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Abstract ID: db3c9f, Contribution type: Poster Presentation, Session: Local, Regional and Global Seismicity & Seismic Sources Studies, Submitted by: Danilo Cesar Silva Corrêa (danilocesar.sc@hotmail.com).