

# Development of the National Seismological Network (OGU, Uruguay)

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Seismic monitoring in Uruguay began in 2013 with the installation of the first broadband seismometer, within the framework of an academic agreement with the USP seismology center.

Currently the number of permanent seismic sensors has increased to 19. The installation of new seismic instrumentation has helped to develop knowledge about the seismicity and the Uruguayan crust structure.

Five more sensors (BB 120 s) were installed as part of a project with the Chinese Academy of Geological Sciences, and one sensor (BB 120 s) within the agreement with USP.

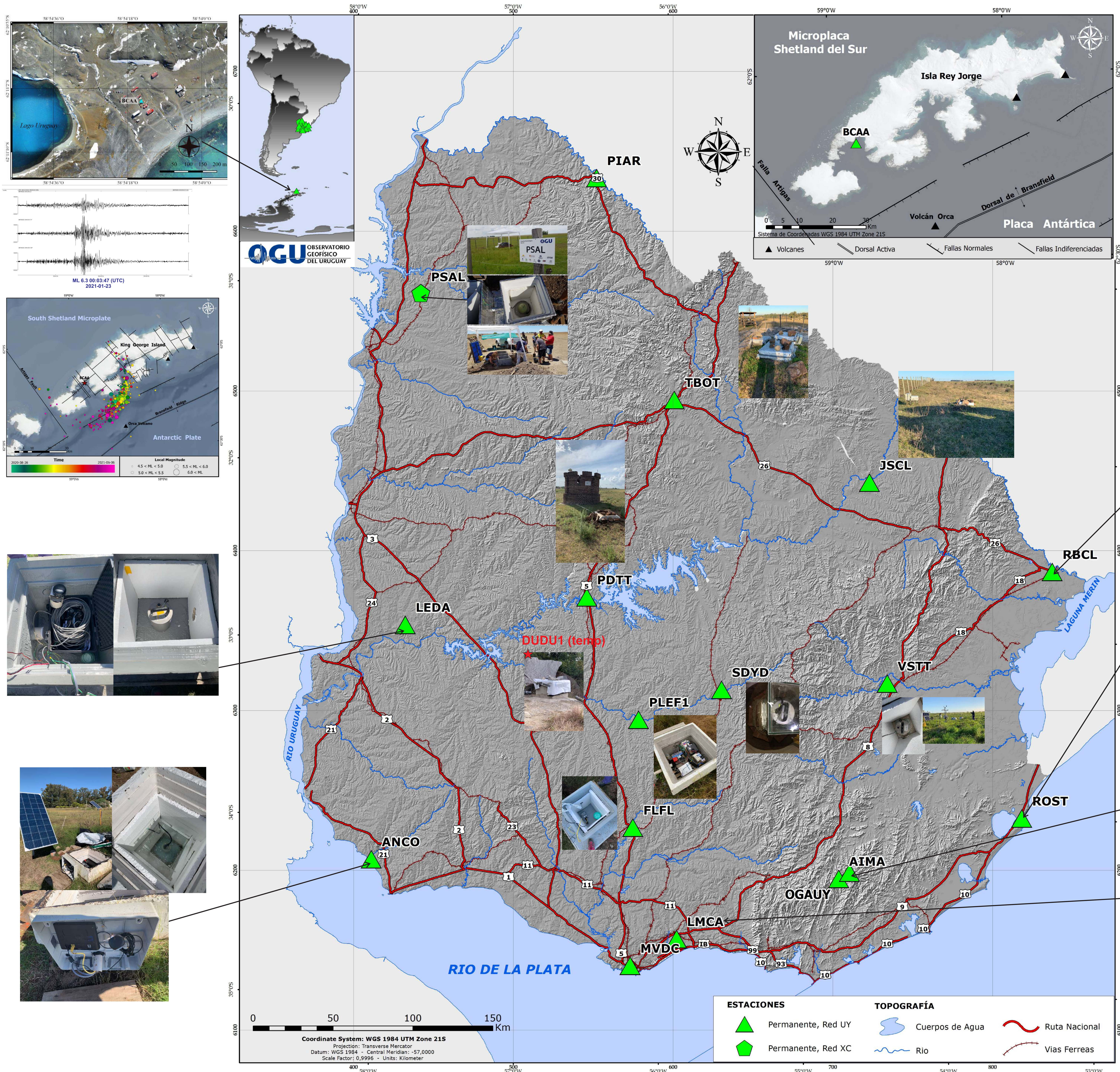
There are also two Güralp accelerometers, one silex accelerometer (Instituto Geográfico Nacional donation), three seismometers (BB 120 s) nanometrics Trillium compact and eight raspberrysake 3D seismometers, one of them installed at the Artigas Antarctic Scientific Base.

The data is managed through the SeisComP3 software, and the sensors are monitored in real time using 4G internet. The spatial distribution of the stations covers most of the country, and they are mostly installed in places where the Continuous Operation Reference Stations (CORS) of the Global Navigation Satellite Systems (GNSS) are located, managed by the Military Geographic Institute (IGM).

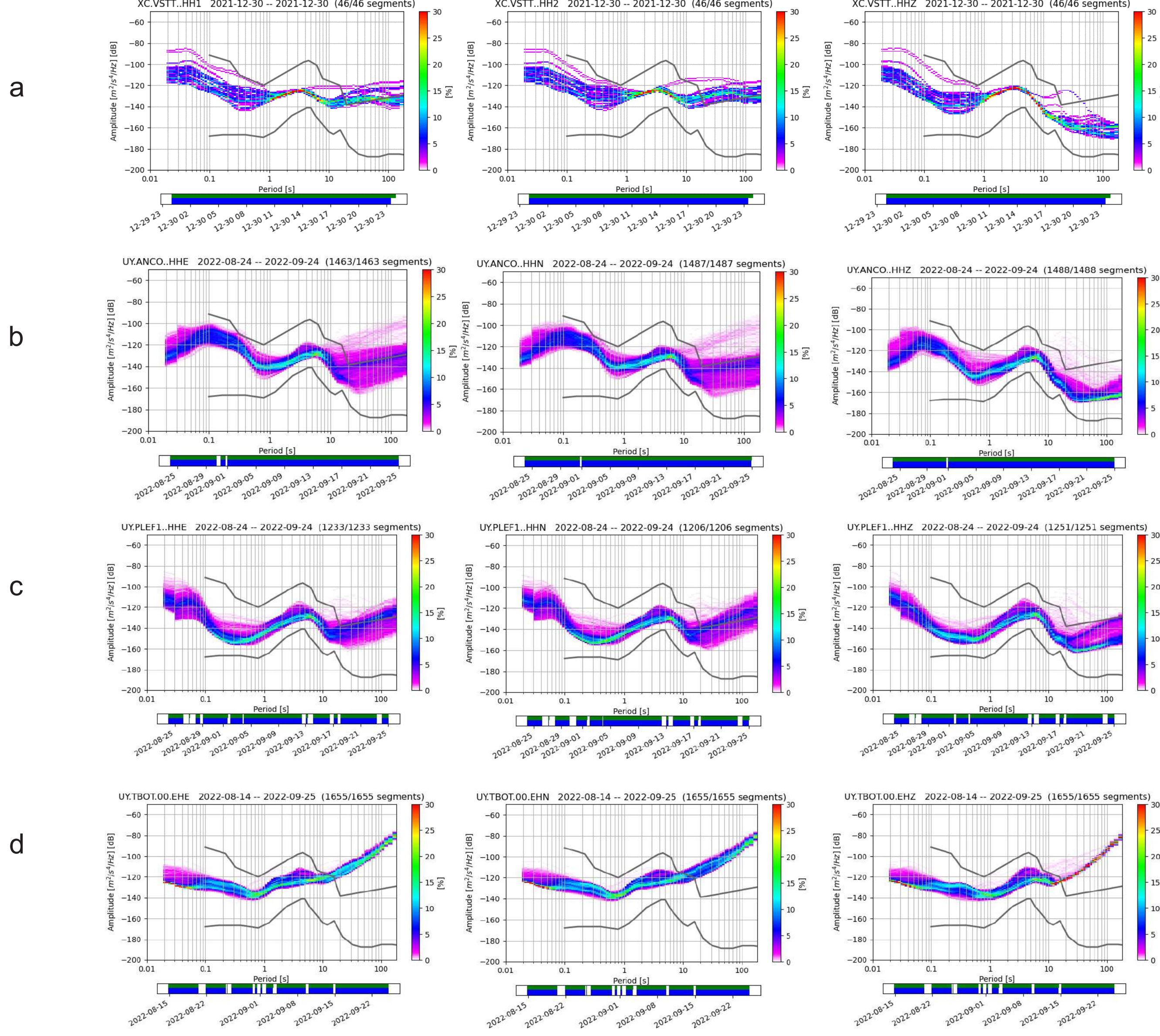
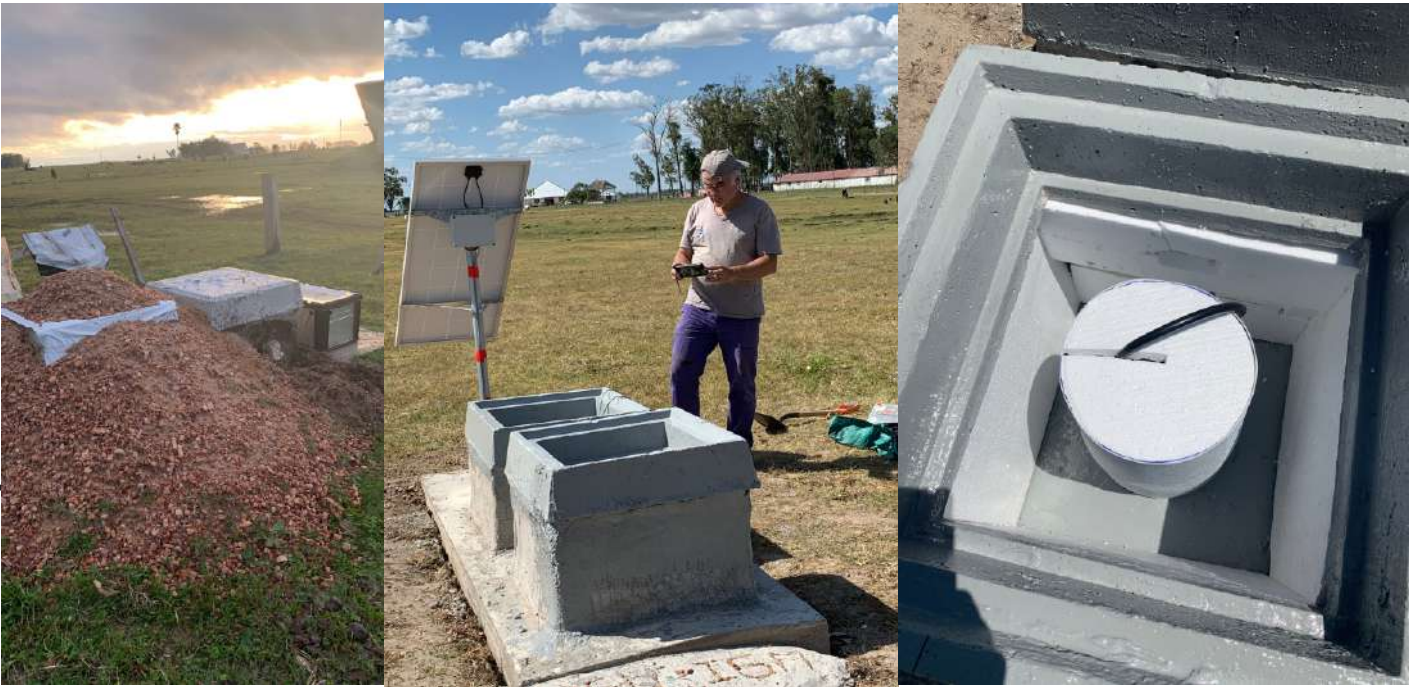
Thus, the current objectives are to improve data quality, increase the density of network sensors by adding new stations, and reduce processing time by automation of procedures.

Seismic event that occurred on May 8, 2021.

Acknowledgments  
The OGU appreciates the unconditional support of the IGM (Ministry of National Defense), Centro de Sismología (USP), as well as the AGESIC (Presidencia de la República), Mr. Justin Portman, ANTEL, PEDECIBA Geociencias, CSIC (UDELAR), INIA (Treinta y Tres), Ministerio del Interior, MIEM (DINAMIGE), FCien (UDELAR), Instituto Antártico Uruguayo (MDN), Observatorio Geofísico (España, Ministerio de Transportes, Movilidad y Agenda Urbana), Universidad ORT (Uruguay) and the Chinese Academy of Geological Sciences (CAGS).



Station	Net	Locality	Department	Latitude (°)	Longitude (°)	Hight (m)	Instrument	Type	Activity
AIMA	UY	Aigua	Maldonado	-34.369	-54.785	279	Seismometer Raspberrysake	Permanent	Active
SDYD	UY	Sarandí del Yí	Durazno	-33.315	-55.600	131	Acelerometer Guralp CMG-5T	Permanent	Active
TBOT	UY	Tacuarembó	Tacuarembó	-31.682	-55.937	171	Seismometer Raspberrysake	Permanent	Active
ROST	UY	Santa Teresa	Rocha	-34.001	-53.554	30	Seismometer Guralp 3T	Permanent	Active
PDTT	UY	Paso de los Toros	Tacuarembó	-32.800	-56.509	70	Seismometer Raspberrysake	Permanent	Active
MVDC	UY	DINAMIGE	Montevideo	-34.877	-56.201	17	Acelerometer Guralp CMG-5T	Permanent	Active
VSTT	UY	Villa Sara	Treinta y Tres	-33.262	-54.487	49	Seismometer Guralp 3T	Permanent	Active
ANCO	UY	Anchorena	Colonia	-34.275	-57.966	15	Seismometer Nanometrics Trillium Compact 120s	Permanent	Active
JSCL	UY	Mazangano	Cerro Largo	-32.131	-54.637	118	Seismometer Raspberrysake	Permanent	Active
PSAL	XC	Palomas	Salto	-31.082	-57.607	62	Seismometer Nanometrics Trillium 120QA	Permanent	Active
LMCA	UY	La Montañesa	Canelones	-34.725	-55.884	34	Acelerometer Silex	Permanent	Active
PLEF1	UY	Polanco del Yí	Florida	-33.489	-56.156	103	Seismometer Nanometrics Trillium Compact 120s	Permanent	Active
LEDA	UY	Sánchez	Río Negro	-32.954	-57.724	54	Seismometer Guralp 3T	Permanent	Active
OGAUY	UY	Cerro Catedral	Maldonado	-34.333	-54.712	252	Seismometer Guralp 3T	Permanent	Active
RBCL	UY	Rio Branco	Cerro Largo	-32.606	-53.406	16	Seismometer Guralp 3T	Permanent	Active
FLFL	UY	Florida	Florida	-34.098	-56.189	65	Seismometer Raspberrysake	Permanent	Active
PIAR	UY	Pintadito	Artigas	-30.433	-56.457	132	Seismometer Raspberrysake	Permanent	Active
RC3B1	UY	Montevideo-Cordon	Montevideo	-34.899	-56.166	55	Seismometer Raspberrysake	Permanent	Active
BCAA	UT	King George Island	South Shetland Islands (Antarctica)	-62.100	-56.000	4	Seismometer Raspberrysake	Permanent	Active



A Probability Density Function (PDF) plot of BH? for a) VSTT during some days of summer 2021; b) ANCO (last month -2022); c) PLEF1 (last month -2022); d) TBOT (last month -2022).