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## ASAIN ANTARCTIC NETWORK: NEW DEVELOPMENTS

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An optimal global coverage of the Earth with broadband seismographic stations is still an objective far from being reached. It has been remarked by many authors that this is especially true in the southern hemisphere, where relevant information on medium and low level seismicity is lost due to the lack of an appropriate density of stations in the oceanic regions and in the inhospitable Antarctic areas. Such a situation existed, at least until about a decade ago, in the wide region formed by the continental areas of southernmost South America (Patagonia and Tierra del Fuego), the Antarctic Peninsula and the oceanic region limited by the islands and ridges of the Scotia Arc.

The Scotia Sea region is found between the South American and Antarctic plates and constitutes a complex area tectonics, characterized from numerous active processes and changes in the movement and in the configuration of the plates. The main tectonics characteristics of the Scotia Sea were object of different studies; nevertheless some details of the interactions tectonics, of the margin of plates and of their relative movement remain still uncertain. In this sense, the determination of the features of the lithosphere and the study of the focal mechanisms develop an important role to understand the geodynamic evolution of the area.

No permanent broadband land stations was operating there before 1992 and until today only a few temporary deployments of sea bottom seismographs on the oceanic floor of the Scotia Sea have been performed. Since then, a relevant effort has been conducted by some national Antarctic programs to install a broadband regional network capable of providing the seismological data base necessary to afford the study of those areas. Eight land stations have been put into operation up to now. All of them constitute the Antarctic Seismographic Argentinean Italian Network (ASAIN), AI is the Network code assigned by International Federation of Digital Seismic networks (FDSN).

In the last 21 years OGS (Istituto Nazionale di Oceanografia e Geofisica Sperimentale) and DNA-IAA (Dirección Nacional del Antártico - Instituto Antártico Argentino) deployed and managed the Antarctic Seismographic Argentinean Italian Network (ASAIN), a broadband seismic network (see Table 1 and Fig. 1), that operated in the Scotia Sea region, Antarctic Peninsula and polar area. Data from this network are sent in real time by satellite transmission to OGS and DNA-IAA and then also to IRIS (Incorporated Research Institutions for Seismology) and ORFEUS (Observatories and Research Facilities for European Seismology) and are freely accessible in MiniSEED format. For other formats e.g. SAC format to contact to corresponding author.

In the following we will present the state of the art of the ASAIN network, providing also some information of the last strong earthquakes occurred in the zone in special the 7.6 Mw that struck the Scotia Sea on Nov 17, 2013 very close the ORCD station, and about the expansion of the network with the new MBIO (2014) land installation in the Antarctic Peninsula.

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Table 1. ASAIN network station coordinates and operation dates.

Station	Latitude	Longitude	Height (m.a.s.l.)	Operation Dates mm/yyyy
BELA	-77.8750	-34.6269	262	02/2009-present
DSPA	-53.9536	-68.2668	150.7	11/2002-present
ESPZ	-63.3981	-56.9964	31	02/1992-present
JUBA	-62.2373	-58.6627	16	02/2002-present
MBIO	-64.2405	-56.6227	215	03/2014-present
ORCD	-60.7381	-44.7361	20	03/1997-present
SMAI	-68.1302	-67.1059	9	02/2007-present
TRVA	-54.6803	-67.3394	240	11/2005-2013

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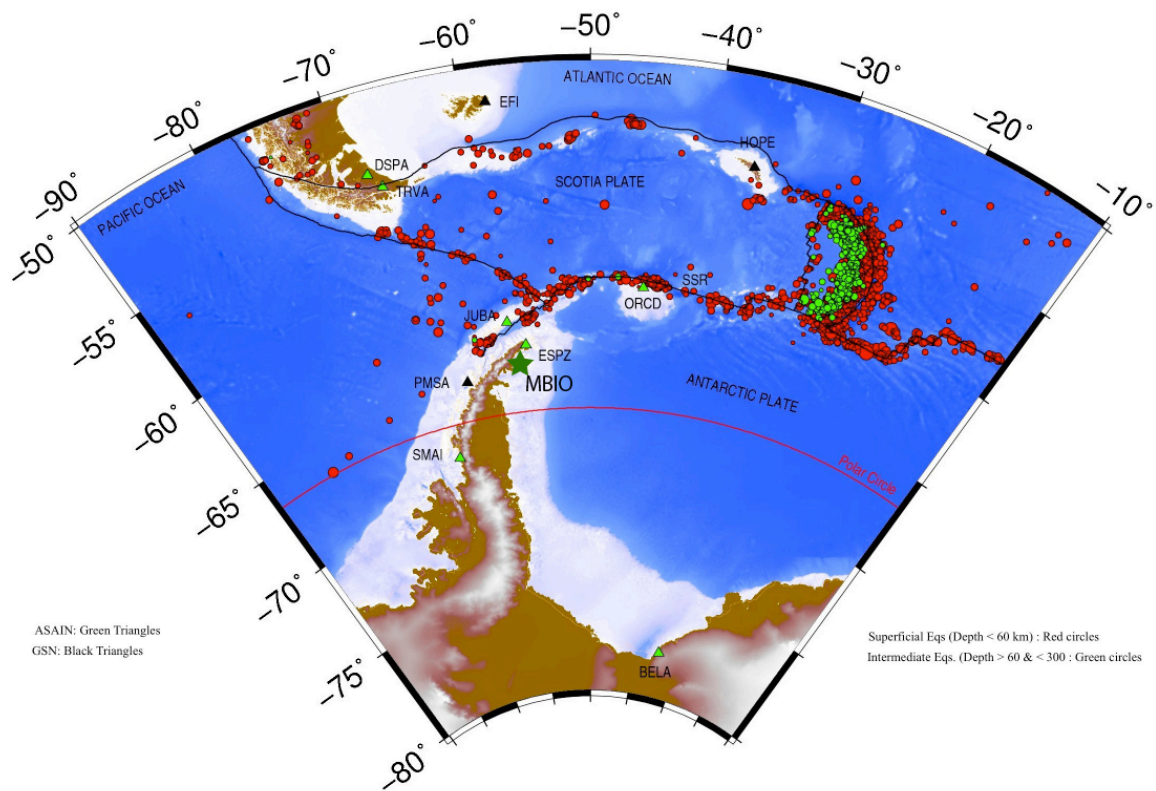


Figure 1. ASAIN network locations, green triangle are ASAIN stations, black triangle Global Seismological Network stations, green star the new (2014) MBIO station, green and red circles indicate the intermediate and superficial seismicity respectively from 1973 to 2009.

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## REFERENCES

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