

NATIONAL OBSERVATORY OF ATHENS INSTITUTE OF GEODYNAMICS

The Institute of Geodynamics (IG) is one of the 5 Institutes comprising the National Observatory of Athens (NOA), the first research centre of the independent Hellenic State, which was established in 1842. The famous from antiquity Hill of Nymphs was selected for building the Observatory. It is situated opposite the Acropolis of Athens and it was designed by the famous Dane architect Theophilus Hansen. Today the Observatory hosts the historical library of NOA and the Astro-Geophysical Museum.

The NOA-IG was officially established in 1891. It coordinates the National Seismological Network and it participates in the National Accelerographic Network. It also hosts the Hellenic National Tsunami Warning Centre. It provides the facilities for pre- and post-graduate student training in collaboration with Greek and foreign Universities. It also provides services to third parties concerning seismographic networks (deployment and maintenance, record processing and database development, staff training).

The NOA-IG can be easily reached via Athens metro (line 1 - station Thissio or line 2 - station Acropolis).



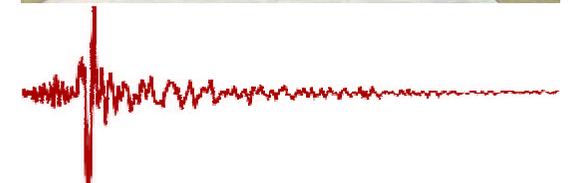
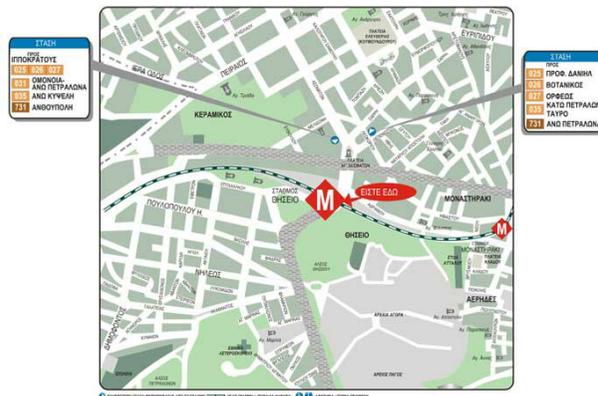
MINISTRY OF EDUCATION, LIFE LONG LEARNING
& RELIGIOUS AFFAIRS

GENERAL SECRETARIAT
FOR RESEARCH & TECHNOLOGY

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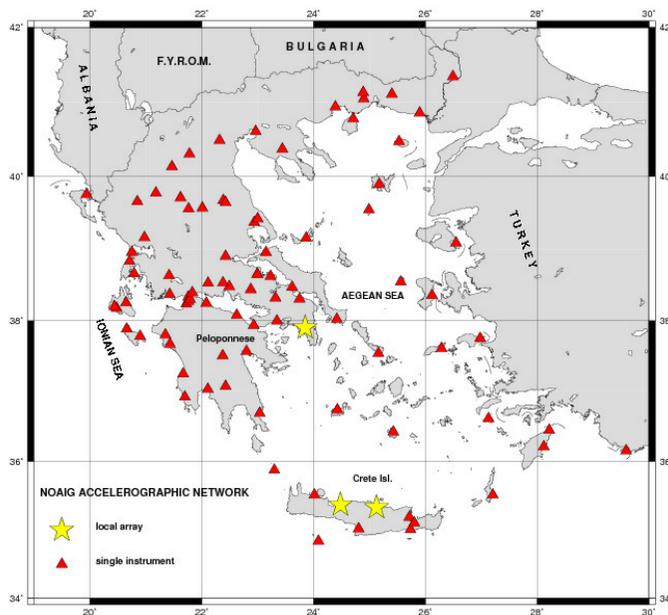
ACCELEROGRAPHIC NETWORK



The Institute of Geodynamics, National Observatory of Athens (NOA-IG) has been operating a permanent strong motion network since the 70s. The installation of 15 analogue SMA-1 instruments developed the first permanent accelerographic network of the Hellenic State. Till 1986 the NOA-IG increased the number of installed instruments to 40, while since 1995 the gradual use of digital accelerographs started. By the end of 2008 the installed instruments (A800/A900, QDR, ETNA and CMG-5TD) reached the number of 85 following the financial support of the Hellenic State or within the frame of scientific projects.



At that time, the Earthquake Planning and Protection Organization (E.P.P.O.) supported financially NOA-IG and ITSAK aiming to the development of a National Strong Motion Network. Through this project NOA-IG purchased more than 80 modern 24-bit accelerographs of CMG-5TD type, doubling in such a way the number of the installed instruments. By the end of 2010, the permanently installed instruments reached the number of 120.

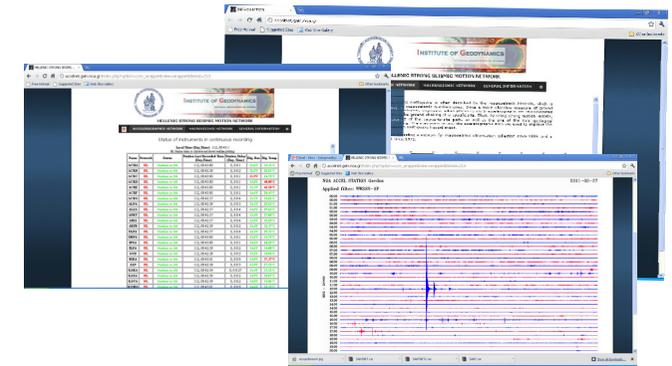


The majority of the instruments are located in urban complexes, taking into account the population density and the seismo-tectonic characteristics of the broader Aegean area. Local strong motion arrays are also developed in some cities. The most important is the one covering the broader area of Athens. Limited number of instruments are installed at archaeological (ex. Acropolis of Athens) or historical sites.

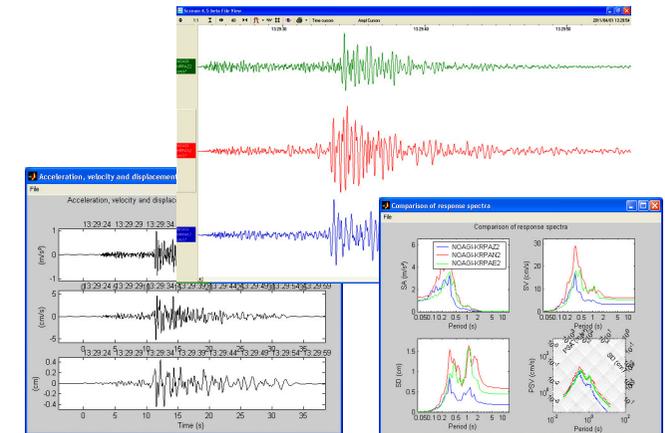


The telemetric connection of the installed instruments (via ADSL, 3G or satellite links), using the "SYZEFXIS" network of the Hellenic State, improves the reliability of the network.

NOA-IG and the Acropolis Restoration Service (Y.S.M.A.) have been cooperating for the strong ground motion study in the Acropolis area since 2006. Within this frame, the first installation of a digital 12-bit accelerograph at the Acropolis hill was followed by the deployment of an array consisting of 6 24-bit instruments, connected via "SYZEFXIS". The sites were selected highlighting the different local conditions. Special care was taken to overcome the extreme weather conditions, the presence of visitors and the restoration works. The installed instruments provide records used for the restoration works of the Acropolis monuments and they are the first ever recorded at this site.



A modern web page has been developed for monitoring the accelerographic network (<http://accelnet.gein.noa.gr>), providing station information and the status of the instruments, as well as real-time plotting of the continuously recorded accelerograms. Station quality graphs are also available.



The processed records are incorporated in databases along with other useful information concerning the stations and the recorded earthquakes and disseminated to any possible user (Universities, Institutions, construction companies). The **Hellenic Accelerogram Database**, version 1.0 is a unified strong motion database consisting of records obtained from the Hellenic National Strong Motion Network from 1973 to 1999. The project has been financed by E.P.P.O.

