

+ CONTINENTAL SURFACES AND INTERFACES

The main study site of the Observatoire Hydro-Géochimique de l'Environnement (OHGE) is a granitic catchment basin: the Strengbach Watershed. This forested site is located in the Vosges Massif between 800 and 1100 meters high.

The ecosystem and its changes, linked to natural or anthropic disturbances, are monitored, explored and studied since 1986 throughout a multidisciplinary approach.



is involved in the hydraulic flow measurement section.

The project MIGA intends to create a new infrastructure based on quantum mechanics. This infrastructure will allow a better comprehension of terrestrial gravity variations and its implications.

EOST is also involved in the large European project EPOS (Plate Earth Observing System). It is a long-term plan to facilitate integrated use of data, data products, and facilities from distributed research infrastructures for solid Earth science in Europe.

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+ PROJECTS

French EQUIPEX projects aim to build tools at the edge of scientific research.

Equipex RESIF aims at setting-up new seismic, geodesic and gravimetric instruments on whole French territory in order to be able to measure and study ground deformation on timescales from a fraction of a second to a decade.

RESIF allows progress on fundamental subjects such as crust and lithosphere dynamics and their outcomes for natural hazards.

The CRITEX project gathers more than 20 universities and research laboratories. It aims to characterize the hydrological and geochemical behavior of several catchment basins. EOST

Photos :

- Shelter of seismological station at Dome C Concordia (Antarctica) © M. Bes de Berc
- OHGE - hydrologic station of the Strengbach watershed (Vosges) © M.C. Pierret
- Supraconducting gravimeter, Djougou (Bénin) © F. Littel
- Transmission relay, Super-Sauze (Southern Alps) © P. Ulrich
- Variometer shelter of the magnetic observatory Dome C Concordia (Antarctica) © J.D. Bernard
- Seismicity of metropolitan France between 1980 and 2011 © BCSF-RéNaSS
- Outfall of the OHGE obs. (Vosges) © M.C. Pierret

ÉCOLE ET OBSERVATOIRE DES SCIENCES DE LA TERRE

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EOST OBSERVATORIES

Conception : S. Miller (DALI/Unistra), V. Bertrand - Réalisation : V. Bertrand - © EOOST 2016

EOST OBSERVATORIES

+ OBSERVATORIES

EOST (School and Observatory of Earth Sciences) is also an Earth Sciences Observatory (OSU) under the supervisory authority of CNRS (French national center for scientific research) and the University of Strasbourg. Its missions are to contribute to the monitoring of natural phenomena and to provide data to the scientific community.

Earthquakes, magnetic fields, gravitational force, hydro-chemical composition, landslides are some examples of the natural processes observed by EOST. Understanding their behavior at different temporal and spatial scales requires both human and instrumental resources.

Observations exploit measuring devices that relay data to computer systems for acquisition and processing. Maintaining and improving these tools are important parts of the mission of the observatories. Data analysis and model building are also parts of the mission, as is providing data to the scientific community. The aim is to better understand and predict natural phenomena. Each year, a great amount of

published scientific articles are based on data collected by the EOST observatories which are organized by theme: seismology, geodesy and gravimetry, magnetism, landslides, environment.

EOST is the coordinator for some national observation networks (e.g. BCSF-RéNaSS, RLBP and OHGE) and an active participant in others (e.g. BCMT, RENAG and GEOSCOPE). This network-based organization favors synergies of resources and skills.

+ ORGANIZATION

A joint service unit, UMS830, is the administrative structure that supports our observation services. It consists of 20 technicians and engineers.

Solid earth —

Seismology

- Bureau central sismologique français - Réseau national de surveillance sismique (BCSF-RéNaSS)
- Réseau large bande permanent (RLBP)
- Observatoire sismologique du nord-est de la France
- Geoscope (Terres australes, Antarctique, Sénégal, France)

Geodesy and gravimetry

- RENAG (Fossé rhénan)
- Observatoire gravimétrique de Strasbourg

Magnetism

- BCMT (Austral Territories, Antarctica, Madagascar)
- ISGI (International Service of Geomagnetic Indices)

Land slides

- Observatoire multidisciplinaire des instabilités de versants (OMIV)

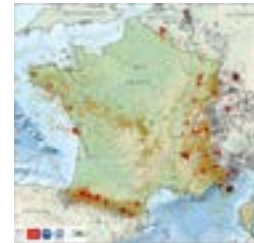
Continental surfaces and interfaces —

- Observatoire hydro-géochimique de l'environnement (OHGE)

+ SOLID EARTH

Seismology —

The recording and analysis of seismic waves enables researchers to understand Earth's dynamics and to improve knowledge of seismic hazards.



EOST is in charge of permanent seismic stations located in northeastern France and abroad (Senegal, French Austral and Antarctic Territories). They are integrated into

national (e.g. RLBP, RAP) and international (GEOSCOPE) networks.

EOST is the national coordinator of the French Broadband Seismic Network (RLBP), the French Central Seismological Office (BCSF) and the National Network of Seismic Surveillance (RéNaSS). These last two produce the national bulletin of earthquakes occurring in France. BCSF also collects and analyses macroseismic observations (earthquake effects) to assess EMS98 intensity.

Magnetism —

Magnetic Observations aim at understanding the origins of magnetic field variations at different temporal and spatial scales.

EOST runs six permanent magnetic stations located in the French Austral, Antarctic Territories and Madagascar Island. They are part of two networks: French Magnetic Observatories network (BCMT) and INTERNATIONAL Realtime MAGnetic observatory NETWORK (INTERMAGNET).

EOST is also in charge of the International Service of Geomagnetic Indices (ISGI).



Geodesy - Gravimetry —

Geodesy and gravimetry allow the analysis of earth structure and strain. These methods are complementary to seismology.



The geodesic observatory of Strasbourg is part of the Réseau National de Géodésie RENAG (national geodetic network).

EOST is responsible for 8 GPS stations located in the Rhénan area, assigned to study the tectonic strain of the North-East of France.

EOST is also responsible for the Gravimetric observatory of Strasbourg. Through a supraconductive gravimeter, the observatory provides relative and continuous gravity measurements. The observatory is part of the international project Global Geodynamics Project (GGP).

Landslides —

The landslide observatory (OMIV) is in charge of the survey of several landslides in France by combining geophysics, geodetic, geochemical and hydrological monitoring.

EOST coordinates the acquisition and the analysis of the deformation data of the landslides, and is responsible of the monitoring networks of the Super-Sauze, La Valette and Villerive landslides.

