

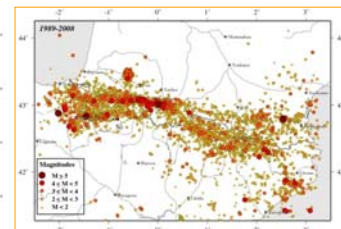
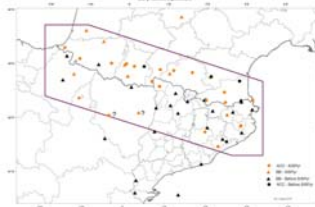
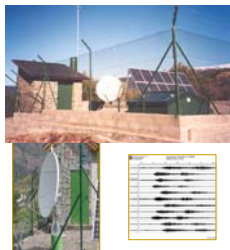
Main Objectives and Contents

The main objective of the SISPYR project is the improvement of the Earthquake Survey in the Pyrenees, at both sides of the France-Spain border. The present state of cross-border survey is not-optimal. Thus, the real-time exchange and sharing of waveforms between different network and the installation of new infrastructures, covering present shadow zones will answer a strong demand of societal actors and particularly crisis managers to improve the Earthquake Alert Systems. The precision of results and rapidity in their diffusion are crucial for the Civil Protection intervention. This project will optimize the adequacy of scientific resources to improve the preparedness of the earthquake crisis in the Pyrenean region. Different actions have been undertaken:

A1 and A2: Seismic observation networks and data sharing by network operators

Knowledge of seismic hazard and study of mechanisms governing the seismicity in the Pyrenees are based on observation of phenomena. Undertaken actions are:

- Pooling data from French and Spanish Networks (IGC, IGN, OMP, BRGM)
- Real-time sharing and archiving all data from the networks



A3 Understanding the sources of seismic hazard

- The development of a 3D crustal model of the Pyrenees is envisaged under the project.
- The development of automatic calculation of moment tensors will be made for $M > 3$ earthquakes of the project area. Incorporation in future shake-maps.



A4 Seismic risk management: information, prevention and preparedness

Shake maps

It is planned to develop the generation of maps of ground motion in the minutes following an earthquake: shake maps. These maps directly derived from the common network and macroseismic observations are the seismic scenarios for possible damage to areas potentially affected.

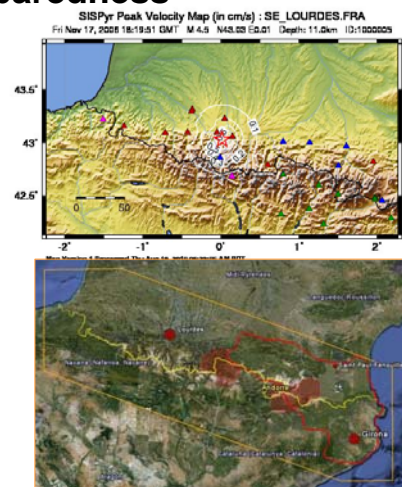
Earthquake Risk Scenarios

Risk scenarios, are being carried out on pilot areas chosen by:

- specific seismicity and specific issue as touristic area border: Val d'Aran/ Luchonnais,
- specific issues of people potentially exposed: Lourdes and Girona.

These scenarios incorporate:

- the modulation of local hazard by taking into account the soil effects,
- the vulnerability of buildings, using different methods: apprehended statistically at municipal level and modeling the behavior of isolated buildings,
- the vulnerability of communications networks (roads)



A5 Feasibility of an Early Warning System

The aim here is to demonstrate the technical feasibility of such a tool and to justify its interest in improving the management of crisis in the Pyrenean context. The work may lead to decline in four ways:

- Architecture of alert system
- Data processing in real time
- Development of early warnings
- Feasibility of an EWS Pyrenean through a phase of testing

A6 Dissemination of knowledge on Pyrenees seismic risk

- Creation and updating a website dedicated to the project (trilingual sites, French, Spanish, Catalan)
- Production of awareness materials to earthquake risk across the Pyrenees integrating project results and actions conducted by project partners as well as the end-users of the program.
- To share seismic risk awareness in schools
- Public meetings or conferences for information on seismic risk in the Pyrenees
- Seminars in partnership with local communities
- Participation in scientific meetings
- Publication of articles in peer-review journals.



Damage observed during Arette, 1967 EQ