

OS3/P2/ID206 - EARTHQUAKE INFORMATION SYSTEM IN THE PYRENEES- SISPYR PROJECT

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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. In fact the present cover of the stations distribution is not adapted to the cross-border survey. Thus, the installation of new infrastructures, covering present shadow zones and the real-time exchange of waveforms will answer a strong demand of different network operators 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. Several actions are planned:

- Installation of 7 new broad-band real-time stations and updating 22 existing accelerometric stations with real-time transmission. Post-seismic trans-border intervention protocols will be defined.

- Exchange of real time waveforms between different networks and automatic post-processing in near real time after the automatic detection of an event of approximately 50 accelerometric and broad-band waveforms archived in real time in a temporary common data server.

- Improvement of seismological knowledge as the inversion of moment tensor, 3D lithospheric model and attenuation of coda waves under Pyrenees.

- Development of a cross-border Shake Map for the whole Pyrenees area, integrating near real time peak ground motions from the common data server, macroseismic observations and adapted predictive equations for peak ground motion and macroseismic intensity.

- Development of damage scenarios for different cross-border pilot zones, with local hazard analysis with detailed studies of seismic microzonation and the vulnerability assessment of dwelling buildings performed at different levels of detail.

- A feasibility study of an Early Warning System will be performed based on the new Earthquake Survey and existing operational Earthworm tools.

- Valorization of results will be done through a dedicated web site, information sessions in order to maintain civil protection agencies, local actors of the risk management and population well informed about the seismic risk and scientific diffusion by means of congress and peer review publications.

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