The ALERT-ES Project for earthquakes in Cape San Vicente region.

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The main goal of the ALERT-ES project (“Sistema de Alerta Sísmica Temprana: Aplicación al Sur de España”) is to study the feasibility of an Earthquake Early Warning System (EEWS) for the potentially damaging earthquakes that occur in the zone Cape S. Vicente-Gulf of Cadiz (S. Spain). This area is characterized by the occurrence of large and damaging earthquakes such as the 1755 Lisbon ($I_{max}=X$) or 1969 S. Vicente Cape (Ms=8,1) events. Most earthquakes in this area have their epicenters offshore at epicentral distances between 150 and 250 kms off the coast line, so a feasibility study is needed before an EEWS system implementation. The project has two different parts: the development of algorithms for the rapid estimation of the magnitude for South Spain earthquakes from the very beginning of P-waves and the development of the corresponding new software modules and their implementation in the EarthWorm and SeisComP systems. A pilot experience will be carried out in the last months of the project. Observations from coast stations and OBS will be used.

The research team is formed by three partners: Universidad Complutense de Madrid (coordinator), the Real Instituto y Observatorio de la Armada, S. Fernando, Cádiz and the Institut Geologic de Catalunya. Researchers from other Institutes like Instituto Geográfico Nacional (Spain), University Federico II (Naples, Italy), Ecole Normale Superieure (Paris, France) and German Research Centre for Geosciences (Potsdam, Germany) are integrated in the Spanish teams. The project is supported by the Spanish Ministerio de Ciencia e Innovación (CGL2010, 19803-C03, 2011-2013).